

THE

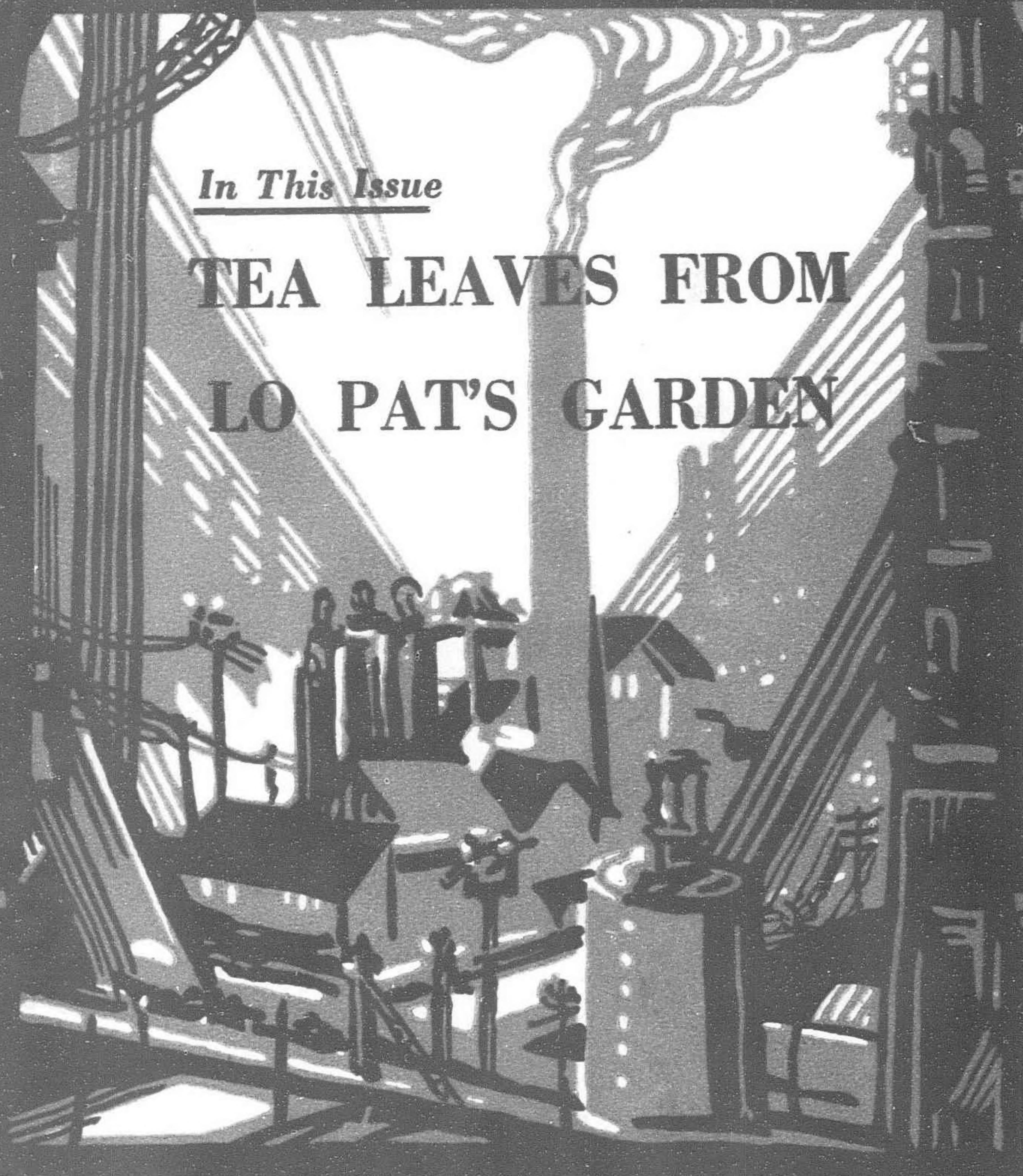
FAR EASTERN

REVIEW

FOUNDED BY GEORGE BRONSON REA
36TH YEAR OF PUBLICATION

In This Issue

TEA LEAVES FROM LO PAT'S GARDEN



上海黃浦灘念四號

CHINA'S CHANCE FOR PEACE
THE AMERICAN NAVY UNDER SURVEY
THE NETHERLANDS ADMINISTRATION IN
THE EAST INDIES

遠東時報



SOUTH MANCHURIA RAILWAY

Head Office : DAIREN

Cable Address : "MANTETSU"

*Codes : ABC 5th Ed., Al,
Lieber's & Bentley's*

IMPORTANT OVERLAND LINK BETWEEN EUROPE AND THE FAR EAST

From BERLIN to DAIREN in only 11 DAYS

The fastest and most comfortable trains in the Far East carry you to the much-talked-of Cross-Road of East Asia "Manchoukuo."



North Mausoleum, Mukden

YAMATO HOTELS

at Dairen, Hoshigaura (Star Beach), Ryojun (Port Arthur), Mukden, and Hsinking are directly managed by the South Manchuria Railway Co.

TICKET AGENTS

Tickets are issued by, and Pictorial Guide Books and Information may be obtained, at the following offices:

Messrs. The Japan Tourist Bureau; Thos. Cook and Son; The American Express Company; The International Sleeping Car Company ("Wagonlits"); The Nordisk Resebureau.

S.M.R. { Tokyo, Osaka, Shimonoseki, Shanghai, Peiping, Mukden, Hsinking,
Branch Offices { Kirin, Harbin, Paris, New York, etc.

The Far Eastern Review

ENGINEERING

FINANCE

COMMERCE

VOL. XXXVI

SHANGHAI, MAY, 1940

No. 5

FAR EASTERN CROSS-CURRENTS

Japan's "deep concern" with any situation that may bring about a change in the present status of the Netherlands East Indies was expressed on April 15, by Mr. Hachiro Arita, Foreign Minister, in a special interview with the Japanese press.

Mr. Arita met with the press after the adjournment of an extraordinary Cabinet meeting, which was preceded by a hurried consultation, this morning, between Premier Admiral Mitsumasa Yonai and the Foreign Minister.

"Japan is economically bound with the South Seas region, specially the Netherlands East Indies, by an intimate relationship of mutuality in ministering to one another's need," "Mr. Arita replied to a newspaperman's question on Japan's position with regard to the involvement of the Netherlands in the European war and the repercussions in the N.E.I. of such a development.

"Similarly, other countries of East Asia maintain close economic relations with that region. That is to say that Japan, these countries, and the South Sea region are contributing to the prosperity of East Asia through mutual aid and interdependence," the Foreign Minister continued.

"Should the hostilities in Europe be extended to the Netherlands and produce a repercussion, as you say, in the Netherlands East Indies, it would not only interfere with the maintenance and the furtherance of the above-mentioned relations of economic interdependence, co-existence and co-operation, but it would create an unfortunate situation from the viewpoint of the maintenance of peace and the stability of East Asia.

"The Japanese Government," Mr. Arita stated, "cannot but manifest its deep concern towards the creation of a situation which may bring about a change in the status of the Netherlands East Indies as a consequence of the aggravation of the war in Europe."

SUMA EXPLAINS

The preservation of Japan's special interests in areas adjacent to her own territory was the "simple aim" of the press statement made by Mr. Hachiro Arita, Japanese Foreign Minister.

This definition of the Foreign Minister's pronouncement expressing Japan's "deep concern" over possible Far Eastern repercussions of Holland's involvement in the European war was made by Mr. Yakichiro Suma, spokesman for the Foreign Office.

Replying to a question by a foreign correspondent at his press conference Mr. Suma declared that the term "Asiatic Monroe Doctrine" was not "proper" to describe the spirit inspiring Mr. Arita's statement.

The term "Monroe Doctrine," according to Mr. Suma, had been "abused in many ways or used in an enlarged meaning" which lacked accuracy.

Mr. Suma pointed out that Mr. Arita attached the greatest importance to the economic aspect of the relations between Japan and the Netherlands East Indies as indicated by the Foreign Minister's replies to interpellations in the last session of the Diet, earlier this year, when Mr. Arita had expressed "in no equivocal terms" that Japan took only an economic interest in the South Seas region, including the Netherlands East Indies.

Asked if Mr. Arita's statement represented a reaffirmation of the Four-Power Treaty of 1922, Mr. Suma admitted that the pact remained in force, but added that the Foreign Minister, in his declaration, had aimed at preventing the European conflict from spreading to the Pacific area.

THE HULL STATEMENT

On April 18, The United States called on other nations to respect the *status quo* of the Netherlands East Indies regardless of what happens to the Netherlands.

The Secretary of State, Mr. Cordell Hull, in a formal statement, said that "intervention in the domestic affairs of the Netherlands Indies, or any alteration in their *status quo* by other than peaceful processes, would be prejudicial to the cause and stability of peace and security, not only in the region of the Netherlands Indies, but in the entire Pacific area."

Mr. Cordell Hull's statement was in reply to the statement made by the Japanese Foreign Minister, Mr. Hachiro Arita, expressing the concern of the Japanese Government for the maintenance of the *status quo* in the Netherlands Indies.

"Any change in the *status quo* of the Netherlands Indies," Mr. Hull's statement added, "would directly affect the interests of many countries.

"The Netherlands Indies are very important in international relationships in the whole Pacific Ocean. They are also an important factor in the commerce of the whole world. They produce considerable portions of the world's supplies of important essential commodities, such as rubber, tin, quinine and copra.

"Many countries, including the United States, depend substantially on them for some of these commodities."

The Secretary of State said he based his statement on two important agreements, one of which was contained in Notes exchanged on November 30, 1908, between the United States and Japan, in which each of the two Governments stated that its policy was directed to the maintenance of the existing *status quo* in the region of the Pacific Ocean.

The other was contained in Notes which the United States, the British Empire, France and Japan sent to the Netherlands Government on February 3, 1922.

Each of the four Governments had declared: "It is firmly resolved to respect the rights of the Netherlands in relations to their insular possessions."

"All peaceful nations during recent years," Mr. Hull concluded, "have been earnestly urging that policies of force be abandoned, and peace be maintained, on the basis of fundamental principles, among which are respect of every nation for the rights of other nations and non-intervention in their domestic affairs; according of equality, of fair and just treatment and faithful observance of treaty pledges, with a modification of them, when needful, by orderly processes.

"It is the constant hope of the Government of the United States—as it is no doubt that of all peacefully inclined governments—that the attitudes and policies of all governments will be based on these principles, and that these principles will be applied not only in every part of the Pacific area but also in every part of the world."

INTERVENTION REJECTED

The Netherlands Government has not sought and will not seek the protection of any country for the Netherlands Indies, the Netherlands Foreign Minister, Mr. Eelco N. van Kleffens, told the Japanese Minister at The Hague, Mr. Itaro Ishii, according to a statement issued by the Tokyo Foreign Office spokesman. The Netherlands is determined, he added, to refuse any offer of protection or intervention.

The statement says that Mr. van Kleffens also expressed appreciation of the attitude of the Japanese Government toward the Netherlands Indies question.

Domei comments that the statement was intended to serve as a refutation of the statement issued by the American Secretary of State, Mr. Cordell Hull, "which was filled with suspicion of Japan's attitude toward the Netherlands Indies question."

PRESS OPINION

The *New York Daily News*, in an editorial commenting on Foreign Minister Hachiro Arita's statement with regard to the Netherlands Indies that if Japan assumed the protection of the Netherlands Indies the United States would do well to keep out of the situation.

In such an event, it points out, it would be doubtful whether the United States could defend the islands successfully against a Japanese naval expedition in view of the natural advantages the Japanese would be in a position to exploit.

"What duty do we owe the Dutch or the English or, for that matter, anybody else to preserve the Dutch Empire?" the newspaper asks.

The proper concern of the United States would be the protection of the Netherlands West Indies, in accordance with the Monroe Doctrine.

The *Daily News* carries a full-page map purporting to illustrate the futility of any American attempt to defend the Netherlands Indies.

The *New York Herald Tribune*, sarcastically commenting on "Nippon's South Sea destiny," says an opportunity for Japan to seize the Netherlands Indies appears to be imminent.

"Japan's normal dependence on the Netherlands Indies for essential resources does not compare with those of Britain and the United States," the newspaper remarks, "because Britain takes 19 per cent of the Netherlands Indies' total exports, while the United States takes 18.7 per cent and Japan only 4.5 per cent. Moreover Britain and the United States have heavy investments in oil, rubber and tin."

This editorial says Japan may consider the protection of the Netherlands Indies a "heaven-imposed duty," although such action would disturb Britain and the United States "deeply."

STATEMENT RESENTED

Japanese press reaction to the statement yesterday of Mr. Cordell Hull, United States' Secretary of State, regarding the Netherlands East Indies is, broadly, hostile.

The *Asahi Shimbun* declares that the American attitude is rather unfriendly and ununderstandable, savoring of unnecessary interference with west Pacific affairs.

The *Hochi Shimbun* says: "The United States, which must have a say in everything," has issued a statement which is a mere rehash of United States arbitrary international ideas, citing treaties which are manifestly incompatible with the Japanese axiom that, until the unfair *status quo* not only in the Far East but throughout the world is replaced by a fair new order, no peace can be expected to prevail.

"Undoubtedly," the newspaper adds, "the Hull statement is intended as a political move to restrain Japan's southward expansion policy, but the United States should know that such an attempt will only inflame the Japanese people."

A joint conference of Foreign Office, army and navy seniors has agreed to ignore entirely the statement made by Mr. Cordell Hull, United States' Secretary of State, calling on the nations of the world, particularly Japan, to respect the *status quo* of the Netherlands East Indies.

At a press conference the spokesman of the Foreign Office said: "We deem it superfluous to comment on the Hull statement because conversations between Japan and the Netherlands regarding the Netherlands East Indies fully clarify Japan's intention."

Expressing satisfaction over the reply by the Netherlands Foreign Minister, Dr. E. N. van Kleffens, to the Japanese Minister, Mr. Itaro Ishii, the spokesman pointed out that the former expressed his Government's appreciation of the Japanese Government's attitude towards the question of the Netherlands East Indies. At the same time, Dr. van Kleffens stated that the Netherlands Government had not sought, nor would seek in future, any country's protection of the Netherlands East Indies. The Netherlands

Government was determined to refuse any offer of protection, or intervention of any kind which might be made by any country.

JAPANESE REACTIONS

The reaction of the Japanese press to the German invasion of the Low Countries may be generally summed up by quoting the *Hochi Shimbun*. The effects of the new German aggression as far as Japan is concerned, says the paper, depend on the following points:

The attitude Britain, France and the United States will take towards the Dutch East Indies—"depending on the attitude of the United States, there is a danger of the war spreading to the Pacific";

Whether or not the United States will extend its hand to the Dutch East Indies; if so the issue would become really serious;

The possibility of Great Britain proposing joint control of the Dutch East Indies by the Allies, the United States and Japan;

The necessity for the Allies to concentrate their influence all the more in Europe.

Concerning the fourth point, the *Hochi Shimbun* says that for General Chiang Kai-shek operations will become more difficult and the China Incident will develop more advantageously for Japan. The *Asahi Shimbun* says the time has now come when Japan should think more seriously about her non-involvement policy.

CODOMINIUM POSSIBLE

While Japan is anxious not to be drawn into the spreading European war, it is felt here that the invasion of the Netherlands brings the war to Japan's doorstep through her proximity to the Netherland East Indies.

Well informed observers think Allied or German occupation of the Netherlands' overseas possessions is extremely unlikely, at least for some time. They point to recent statements by Netherlands, Japanese and American officials opposing any change in the status of the East Indies as barriers to Allied or German occupation for "protective" purposes.

However, the Government is watching the situation with the greatest attention and is determined to be prepared for any sudden developments.

Foreign Office officials said they did not expect British or American interference in the Netherlands East Indies as result of the German invasion of Holland. Japanese authorities, however, are watching developments closely, they said.

Some quarters were of the opinion that Britain might propose British-American-Japanese-French co-operative protection of the East Indies.

"Whether the war spreads to the Pacific depends largely on the attitude of the United States," the *Hochi Shimbun* declared.

The *Kokumin Shimbun* speculated on the possibility of Great Britain attempting to place the Netherlands East Indies under her protection, "defying Foreign Minister Arita's statement of April 15, favoring maintenance of the *status quo*."

BRITISH ATTITUDE

The British Government has previously expressed its interest in maintenance of the *status quo* in the Netherlands East Indies, it is stated in authoritative circles in London.

This attitude remains unchanged, and the Government has no intention whatever of intervening in the islands, nor has any suggestion been made from any quarters that it should do so.

It is emphasized in authoritative quarters that dispatch of an Allied force to the Dutch West Indian islands of Curacao and Aruba was decided in full agreement with the Netherlands Government to prevent sabotage of important oil refineries.

Despite energetic action already taken by the Governor, it was considered essential that additional forces should be immediately available to cope with any emergency.

As soon as the Netherlands Government is satisfied that security is fully established or additional Dutch forces are available, British and French forces will be withdrawn.

ASSURANCES GIVEN

Sir Robert Craigie, British Ambassador in Tokyo, visited Mr. Hachiro Arita, Foreign Minister, on May 13, and assured him that Britain would not interfere with the *status quo* of the Netherlands East Indies, the Foreign Office announced.

"Britain fully shares the Japanese Government's concern over the Dutch East Indies" and believes that the Dutch forces in the

islands are sufficient for the maintenance of the *status quo* of the East Indies, Sir Robert informed Mr. Arita, the Foreign Office said.

"Britain has no intention of intervening," Sir Robert told Mr. Arita, the Foreign Office added.

JAPANESE PERTURBED

Announcement of the occupation of the Dutch West Indies islands of Curacao and Aruba by Allied naval units, with the consent of the Netherlands Government, caused surprise and wonderment in both official and non-official circles in Tokyo.

The Netherlands Government, it was recalled, had not only expressed appreciation of the statement made by the Japanese Foreign Minister, Mr. Hachiro Arita, on April 15, stressing the necessity of maintaining the *status quo* of the Netherlands East Indies, but announced Holland's determination to reject the protection of the Dutch Indies by any third Power.

It was pointed out moreover, the Netherlands Legation in an official statement, rejected in advance any suggestion of such foreign protection. The statement declared that the Netherlands are fully capable of protecting the nation's overseas possessions "regardless of conditions in the mother country."

The permission given to the Allied forces to occupy the two islands in the Dutch West Indies, it was believed in official as well as non-official Japanese circles, is clearly contradictory to the statement issued by the Netherlands Legation.

OFFICIAL ISSUES DENIAL

That the Netherlands Government will permit any third Power to interfere with its administration of either the Dutch East Indies or the Dutch West Indies was emphatically denied at the Dutch legation at Tokyo on May 14, by Dr. R. H. van Gulik, secretary of the Netherlands Legation.

Dr. van Gulik declared, it is the fixed policy of my Government to refuse any offer by any foreign Power with regard to its colonial possessions. We are fully able and are prepared to uphold the independence of our overseas territories regardless of conditions in the mother country.

"Furthermore, the rumor that our possessions in the West Indies have been occupied by the Allies is without foundation. It so happened that French warships, which call at our islands in the West Indies, had made one of their regular stops to pick up supplies, and at that time some French marines were landed."

Dr. Gulik stressed the fact that the mere landing of some French marines could not be termed "occupation." He furthermore explained that the Dutch West Indies already have been placed under a wartime footing and that Dutch forces there were ready to meet any situation that might arise.

The Netherlands official added, "While we have received little news concerning the war in the Netherlands, we received a message from our Government ordering Dutch banks in Japan to pay out all deposits made by Germans before May 10.

"My Government did temporarily suspend all payment to Germans following the invasion of the Netherlands. Germans in Japan who made any deposits in any Dutch bank may make their withdrawal at any time."

EXPLANATION GIVEN

The Japanese Government was officially notified, on May 14, by the Netherlands Legation that Holland had consented to occupation of Dutch West Indian islands by Allied naval forces only to prevent sabotage and instigation of riots among the natives by German laborers employed on the islands.

The information was given to Mr. Yutaka Ishizawa, sectional chief of the Foreign Office European and Asiatic Affairs Bureau, by a secretary of the Netherlands Legation who explained the Dutch Government's stand at length.

Mr. Ishizawa was assured that the Allied forces will evacuate the islands as soon as precautions can be taken to prevent the outbreak of disturbances. It was explained that the Dutch police force in the islands is insufficient at present to assure the continued maintenance of peace and order.

The Dutch official, however, gave assurances that a similar situation will never prevail in the Dutch East Indies where, it was stated, strong units of the Netherlands Army are stationed and are prepared to handle any disturbances that may arise. Consequently, he said, landing of British or French detachments in the Dutch

possessions in the East Indies is not contemplated and will not be sanctioned.

Despite the Dutch explanation, it was learned that Foreign Office officials take a serious view of the situation and believe the Allied landings on the Dutch islands of Curacao and Aruba is completely contradictory to the formal Dutch statement that foreign protection of any Dutch colonial possession would be flatly rejected.

INCIDENT PROTESTED

A vigorous protest against recent anti-Japanese demonstrations in the Dutch East Indies was filed with the Netherlands Government in Batavia, on May 12, by the Japanese Consul-General, Mr. Ototsuga Saito, the Tokyo Foreign Office announced.

On May 10, according to a report from Mr. Saito, scores of anti-Nazi demonstrators in the city of Bandoeng halted in front of a Japanese shop, shouting derogatory remarks and calling for the expulsion of all Japanese citizens from the N.E.I.

Previously in Samarang the Netherlands Fatherland Club passed a resolution urging the Government to search the homes of German and Japanese residents who, it alleged, had concealed arms and ammunition, Mr. Saito reported. The club further asserted it was a matter of suspicion that Japanese lived only in strategic points in the islands.

Mr. Saito's protest pointed out that a repetition of such incidents would only harm the friendly relations between Japan and the Netherlands and he took the opportunity to assure the Netherlands Government that Japanese in the N.E.I. have no object beyond engaging in peaceful business pursuits.

DIPLOMATICALLY CLOSED

The spokesman for the Navy Office, Rear-Admiral Masao Kanazawa, on May 16, told the press that the Netherlands East Indies question was diplomatically closed by the assurances of Britain, France, the United States and the Netherlands that the *status quo* of that area would be maintained.

Rear-Admiral Kanazawa said the Japanese Navy, however, is concerned over whether the assurances will be faithfully kept. The East Indies is second or third ranking supplier of oil to Japan, he said, and therefore is very important to the nation.

JAPAN'S FOREIGN POLICY

Mr. Hachiro Arita, Foreign Minister, explained the Government's foreign policy, when he addressed a conference of prefectoral governors on May 3.

Highlights of his speech included :

The Government's concentration on efforts to ensure a full measure of support for the new Central Government at Nanking.

The Government's policy of non-involvement in the European war.

A review of the European situation, with emphasis laid on development of the war ; and

An analysis of his statement for maintenance of the *status quo* in the Netherlands East Indies.

Regarding the formula for disposal of the China Affair, Mr. Arita said the Government would make efforts to help the new Central Government attain a sound development on the basis of the construction of a New Order in East Asia. Pointing out the various difficulties ahead not only in China but also in relations with Third Powers, he emphasized the necessity of further strengthening national unity and solidarity so as to attain the objective of the China Affair.

With development of the European war, the Foreign Minister observed, various questions claiming Japan's serious attention were cropping up in East Asia, but there was no necessity of changing the country's basic policy of non-involvement in the conflict.

"There are so many conflicting reports regarding the European situation that it is difficult to ascertain the truth. The Government is vigilantly watching developments in the European situation, in view of an expansion of the war."

PROBLEMS AHEAD

Although a new régime has emerged at Nanking, the "real barriers" which Japan must face in its prosecution of the China incident are still ahead, Premier Yonai told chiefs of liaison offices of the China Affairs Board.

The future will not be smooth sailing, the Premier declared, and Japan must face the fact that remnant forces persisting in resistance continue to be active.

Premier Yonai also expressed the view that the development of the conflict in Europe will serve only to complicate international relations and that Japan now can anticipate many difficulties in the way of solving the incident.

He expressed these views in a speech at the opening session of a three-day conference of liaison officials held at the official residence of the Premier.

FRICITION IN CHINA

Following publication of reports revealing friction between Chinese Communist and Chungking Kuomintang authorities throughout the border provinces, the *Kuo Min Jih Pao*, organ of the Chungking régime in Hongkong warned editorially that Chinese resistance faces a "grave threat" unless strong efforts are made immediately to prevent the schism from spreading.

The newspaper declared that while there is little possibility of pitched battles between the two camps, nevertheless the matter is of the utmost seriousness to the nation and friction must be eradicated immediately. It praised the "extreme patience" of the Central Government authorities but asserted that the question must be brought into the open for full and open settlement.

The report, prepared by the field headquarters of General Chiang Kai-shek at Tienhui in Kansu province, was reviewed in detail.

It showed that Communist military and political leaders in areas under their domination have forced the withdrawal of Chungking troops from those areas, stirred up opposition to the central régime, murdered those who opposed their program and ceased their anti-Japanese resistance to devote their full time to wiping out Chungking's influence in the border districts.

"We are fully conscious of the grave responsibility we must bear for the publication of this report," the paper said. "However we believe continued anti-Japanese and anti-Wang Ching-wei activities are the most fundamental necessity facing us and we therefore hope we will not be condemned by the Communists for publication of this document."

"We openly declare that the general situation is not so optimistic as is generally supposed and therefore we find it impossible further to hide these facts. For this reason we hereby present the real situation which the nation faces from this grave question and we hope for further and more earnest efforts for settlement of it following the lead of the special committee of the People's Political Council."

GREET NEW CHINA

The common opinion that, with the establishment of the "Reorganized National Government," China has laid the first-stone in the foundation of a new order in Asia, was expressed by high Japanese officials gathered in Nanking to celebrate the formal establishment of the new government as they were interviewed on their arrival to attend the coming celebrations.

"The establishment of the Reorganized National Government of China has ushered in a new stage in the attainment of the final goal of Japan's sacred campaign," Mr. Shoju Koyama, speaker of the House of Representatives, said.

Gen. Nobuyuki Abe, Ambassador Extraordinary and Envoy Plenipotentiary to Nanking, and 22 members of his staff called on Mr. Wang Ching-wei, acting president of the "National Government of China," at the latter's office.

Gen. Abe and his staff arrived aboard the ss. *Kashima Maru* to represent the Japanese Government at the official celebrations of the return of the National Government to its capital.

Gen. Abe and his staff were received at the entrance to the National Government offices by Mr. Wang, Dr. Chu Min-yi, Foreign Minister, and other Chinese officials.

Gen. Abe and Mr. Wang shook hands, after which Gen. Abe, Mr. Shinrokuro Hidaka, councillor of the Japanese Embassy, and Mr. Tozo Shimizu, secretary-interpreter, proceeded to reception room with Mr. Wang, Dr. Chu, and Mr. Chou Lung-hsiang, director of the Asiatic Affairs Bureau of the Chinese Foreign Office, for a five-minute conversation.

GIVES WARNING

Critics of the "National Government of China" in Nanking were verbally castigated by Mr. Hachiro Arita, Foreign Minister, as

he addressed the 20th anniversary dinner of the Foreign Affairs Association of Japan in Tokyo on May 3.

"I believe that our nation should give its full support to the new Central Government, on the one hand, while on the other, it should bring pressure to bear upon the Chungking régime by force, so as to dispose of the China conflict in the shortest time possible," Mr. Arita stated. "There are some who advance the pessimistic view that the new Central Government is impotent, but they are words of those who only see its defects. There is no appropriate scheme at present except that of seeking a solution of the conflict by supporting the new central régime."

The Foreign Minister reiterated that the primary objective of Japanese diplomacy was to attain a settlement of the China conflict, seeking to minimize friction as much as possible in dealing with problems arising with other Powers.

Mr. Arita admitted that "it is no easy task" for Japan to carry on its campaign in China and at the same time seek to expand its industrial production. "But we must advance along this path with the utmost diligence," he said.

"It is only natural that our country should follow a policy of readjusting her relations with all Powers," the Foreign Minister said. "Our relations with the United States are now in a delicate state, but I intend to endeavor to prevent a further aggravation."

Referring to the European situation the Foreign Minister declared that the belligerents were "ignoring the existence of neutrals" in their conflict.

AMERICAN ATTITUDE

The United States is determined to hold Japan responsible for any future infringement of American rights in the occupied areas of China, rather than the new régime set up at Nanking under Mr. Wang Ching-wei, State Department officials said at Washington, on April 5.

Administration officials continue to maintain watchful vigilance over developments in China as a result of the establishment of the Wang régime. America believes that the new government must strive not only for acceptance by third Powers but also by the Chinese nation itself.

Many difficulties and problems are foreseen in the course of the next few months over the functions of American consular offices in the areas of China under the jurisdiction of the new Nanking government.

Officials do not expect the U.S. consular offices will be closed in those areas.

CONSTITUTION WORK BEGINS

Mr. Wang Ching-wei, acting president of the Nanking régime, on April 5, issued a declaration instructing chairman of the five yuan to draft regulations for a commission to enforce a constitution and to convocate a national congress as early as possible.

Mr. Wang's action is a further step in an attempt to adopt a constitutional government of the new régime in accordance with one of the provisions of the 10-point political program announced on March 30, when the new régime was inaugurated.

The declaration reads as follows :

"Enforcement of the projected constitutional government in China forms one of the key points embodied in the fundamental policy of the national government announced on the occasion of the return of the central government to Nanking on March 30. Therefore, necessary preparations must be made as quickly as possible."

"The chairman of the executive yuan, in co-operation with chairmen of the legislative, judicial, examination and control yuan as well as with their vice-chairmen should draft organic regulations of a constitution enforcement commission to achieve promulgation of a constitution and convocation of a national congress as early as possible."

QUESTION OF EMBARGO

It is by no means beyond the range of probability that the United States, before Congress adjourns in June, will consider the question of putting an embargo on the export of war materials to Japan.

Two embargo resolutions, one from Senator Key Pittman and the other from Senator Lewis Schwellenbach, are before the Senate and while no action has been taken on them they are merely shelved from week to week. The reason for this procedure is the desirability of waiting for a lead from the State Department.

Sentiment in the Senate shows clearly that given a lead from the State Department or the White House some form of embargo resolution would go through with ease.

A private poll of the entire Senate made recently shows that 24 Senators are strongly in favor of an embargo, 24 are opposed to one and the remaining 48 replied that they were waiting for a lead from the State Department and indicated that if that lead was in favor of an embargo they would follow it.

Political quarters believe that if an embargo resolution went through the Senate with the ease indicated by these figures it would almost certainly be passed by the House.

OPINION IN BRITAIN

If there is any prospect of a move which may end the Sino-Japanese conflict on fair and equitable terms, as the establishment of the new central government would seem to indicate, British diplomats will co-operate, the political correspondent of the *Daily Express* reports.

The British Government, however, for the time being will neither withdraw diplomatic recognition from the Chiang Kai-shek régime nor give recognition to the Wang Ching-wei government. But this does not mean that there will be any British hostility toward the latter, the correspondent concludes.

Because of preoccupation with war developments, especially with plans to intensify diplomatic and economic action against Germany, the inauguration of the Wang Ching-wei government in Nanking is receiving very scant attention in the British press. Official circles also are refraining from comment.

Reports about the new government appearing in newspapers were very brief and relegated to inside pages.

Official circles declined to add anything to previous statements regarding British policy in China and refuse to comment on Secretary Hull's pronouncement, which generally is regarded in unofficial quarters here as being couched in rather strong terms.

Contrasting with Mr. Hull's flat reiteration of America's refusal to recognize a situation established by force of arms, the silence in official circles here is interpreted as a hopeful rather than a discouraging sign from the Japanese viewpoint as it appears indicative of British desire to remain on friendly terms with Japan and at the same time not to close the door to future understanding regarding China if developments there prove of such a character as to demonstrate Japan's readiness to co-operate with foreign Powers.

TIENTSIN ISSUE

The often reported settlement of the Anglo-Japanese dispute over the disposition of Chinese silver in the British Concession in Tientsin is now definitely nearing signature, it was reliably learned in London on April 23.

Perhaps symbolic of the improved atmosphere between the Japanese and British Governments, the Foreign Secretary, Lord Halifax, attended a Japanese Embassy lunch here.

British and Japanese diplomats in the Far East are presently putting the finishing touches to the Tientsin formula, it was said, and it was expected that an agreement would be signed following the lifting of the Japanese Army's blockade of the British Concession at Tientsin.

It was believed the formula would cover the following three points:

- (1) Of the £800,000 worth of disputed Chinese silver in the concession, £100,000 would be contributed to flood relief in North China and the remaining £700,000 would be sealed in the Chungking Government's Bank of Communications at Tientsin.
- (2) British authorities would refrain from impeding circulation in the concession of both the Chinese Government's *fapi* and the Japanese-controlled Federal Reserve bank-notes.
- (3) Japanese police would be permitted to co-operate in suppressing alleged Chinese terrorist activities in the concession.

TALK OF ACCORD

Full re-establishment of the Anglo-Japanese military alliance as an early date is regarded as not out of the question by the *Kokumin*, which has taken up the analysis of Anglo-Japanese relations and, discerns deep significance in the meetings at the Foreign Office between the British Ambassador, Sir Robert Craigie, and the Foreign Minister, Mr. Hachiro Arita, and the Vice-Minister, Mr. Masayuka Tani.

If such were to come to pass, comments the *Kokumin* skeptically, it might be a fair temporary expedient, but nothing good would come of it in the long run. Thus it will be well for the Government to cogitate deeply before committing itself on the matter, it advises.

Ever since the outbreak of the European war, and particularly since the German invasion of Denmark and Norway, Great Britain has been nuzzling up to the strong neutral Powers, notably Japan and the United States, in an obvious manner, says the *Kokumin*. It is allegedly doing this in an effort to strengthen its position.

British efforts in this respect, the newspaper claims, are plainly illustrated in the decision of Sir Robert to postpone his trip to the United States immediately after the German invasion of Denmark and Norway. The British Ambassador originally was scheduled to have sailed by the *Asama Maru*, but quickly changed his mind when the war situation took an abrupt and adverse turn.

CONTRABAND IN PACIFIC

Energetic Allied measures are to be taken to prevent the passage of contraband goods across the Pacific to Soviet ports *en route* to Germany, according to official circles in London.

Figures now available indicate clearly that an extraordinary increase in the volume of trade has been carried by the port of Vladivostock since the war. As all evidence points to the fact that the increase in this traffic is not only greater than the combined imports into all Soviet harbors before the war, but is also very much more than Soviet Russia needs for her own requirements the conclusion is reached that imports on German account are being systematically conducted through this center.

In 1938, the United States exported no rubber or tin to Soviet Russia, no molybdenum was sent to her directly from the United States, and only 50 tons of copper changed hands, but in the period from September 1939 to March 1940 between 60,000 and 70,000 tons of copper, 6,000 tons of rubber, 2,200 tons of tin, 1,600 tons of aluminium, and 6,000,000 lbs. of molybdenum reached Russia from the United States.

Since last February, however, the United States has taken action to stop her exports of tin and rubber to Russia.

Large amounts of rubber and tin, in addition to those imported from the United States, come from the Dutch Indies. Much of these goods goes firstly to Mexico, and is then shipped to Vladivostock.

In one case recently, tin was shipped from the Dutch Indies to a free port on Staten Island, opposite New York, and then to Vladivostock.

Goods were carried by United States, Japanese, Italian, Norwegian as well as Soviet ships.

Germany is also believed to be trying to develop her export trade via Vladivostock in the more valuable small articles, such as precision instruments and dyes.

JAPAN OPPOSES BLOCKADE

Japan would be seriously affected in the likely event of Great Britain extending her blockade network throughout the world, comments the *Kokumin Shimbun*.

Trade relations between Japan and Manchoukuo and Germany, "one of the pillars of Japan's foreign trade," run the risk of a breakdown, the paper declares.

It is added that the Japanese Government has decided to instruct Mr. Memeru Shigemitsu, the Japanese Ambassador in London, to negotiate for the protection of neutral commerce. The Japanese Government contends:

First, that the British Government's extended interpretation of war contraband is an abuse of the rights of belligerency, therefore absolutely unacceptable;

Secondly, in view of the fact that Vladivostock now plays the rôle of a seaport for Germany in the Orient, Japan is afraid that the European war may disturb the sea close to Japan, which Japan, in pursuing her policy of non-involvement, flatly refuses to permit.

THE BRITISH POSITION

Great Britain cannot forego belligerent rights, but it intends to pay the fullest possible regard to Japanese susceptibilities in carrying out any naval activity which is deemed necessary on the Pacific, the Foreign Office spokesman indicated in commenting on reports from Tokyo to the effect that Japan has made representations against possible extension of the European war to Far Eastern waters.

The spokesmen denied that the question has been raised recently in a formal manner, but he admitted that discussions regarding it had taken place in connection with the *Asama Maru* incident of January 18, and that it had been touched on informally during diplomatic contacts. He said that hope has been expressed by the Japanese that Britain will not resort to naval action close to Japanese shores.

Explaining the British attitude, the spokesman said :

"We do not have any intention of committing illegal action, and it is our desire as far as possible to pay regard to Japanese susceptibilities, of which we are fully aware.

"However, it is not possible for us to forego legal rights as a belligerent, and it should be understood that we intend to exercise those rights to the fullest whenever such a course is necessary."

The spokesmen added that it is misleading to speak of extension of the Allied blockade to Vladivostock, although Britain intends to do its utmost to check contraband shipments to Germany via Siberia.

Ambassador Mamoru Shigemitsu called on Foreign Undersecretary Richard A. Butler at the Foreign Office for a further informal talk, it is understood, on questions affecting Anglo-Japanese relations.

CHINA'S RAILWAYS

Will the Japanese keep up the much-talked-about promise to return the Shanghai-Nanking and Shanghai-Hangchow Railway to the new Chinese régime in Nanking? Mr. Wang Ching-wei's organ in Shanghai, the *Central China Daily News* answers in the affirmative asserting that already the Ministry of Railways of the new government is making preparations to take over the two important railways.

Quoting information from Nanking, the report says that the Japanese will soon return the Joint Administrative Office of the Shanghai-Nanking and Shanghai-Hangchow Railways to the new government. A Chinese official formerly working in the office has received a letter from his friend at Nanking asking him to gather together old colleagues so that they may return to their former work.

It is admitted that at present the administrative power of the two railways is in the hands of the Japanese. All high officials are Japanese appointees. Tracing the history of the railways after the war, the report says that repairs were made by the Japanese to the railways which suffered damage during the hostilities but about half a year after the conclusion of the Shanghai hostilities the railways resumed services under Japanese administration.

The report does not mention the financing of the railways and the British investments which have been made the subject of protracted negotiations between the parties concerned. Indicating that the problem is still a knotty one, previous Chinese reports stated that the Japanese claimed repair fees bigger than the cost of the railways themselves.

THE PHILIPPINE QUESTION

The United States should not " begrudge the Philippines the chance to become independent," Mr. Yakichiro Suma, the spokesman for the Japanese Foreign Office, said in an interview with a correspondent of the *Manila Herald* at Tokyo.

The United States should give the Philippines "control of external relations and permit her to assume her rightful rôle in world affairs," Mr. Suma was quoted as saying.

Mr. Suma told the correspondent it was too early to discuss possible Philippine-Japanese relations, but said that trade, cultural and non-aggression pacts would be possible after the islands had been given their independence.

"Geographically, racially and culturally we are closer to each other than any Asiatic people could be with a western nation," Mr. Suma said. "As the tide of civilization sweeps eastward we are duty bound to prepare ourselves for coming important events."

Mr. Suma told the correspondent that the Japanese policy towards the Philippines would be based on the recognition of Filipino nationalism, the desire to see the Philippines free and independent in 1946, "if not sooner," and "the extension of Philippine-Japanese amity and goodwill in economic, political and cultural fields" by treaty after 1946.

The Philippine immigration law does not affect the Commonwealth's relations with Japan, Mr. Suma was quoted as saying. The *Herald* has been conducting a campaign supporting the acceptance of Philippine independence in 1946, using interviews with prominent Japanese—all of whom deny any possibility of

Japanese aggression—as proof that the islands should be granted their independence. Fears of possible aggression, and the belief that the Philippines are indefensible are increasing with the intensification of the war in Europe.

SOVIET-JAPANESE RELATIONS

More detailed reports are now available regarding the speech made on March 30 by Foreign Commissar Viacheslav M. Molotov before the opening session of the Supreme Council of the U.S.S.R. and it is learned that he spoke at length on Soviet-Japanese relations, saying :

"In our relations with Japan, we have, not without some difficulty, settled several questions. This is evidenced by the conclusion on December 31 of the Soviet-Japanese fisheries convention for the current year and also by Japan's consent to pay the last installment for the transfer of the former Chinese Eastern railway, which had been long overdue. Nevertheless, we cannot express great satisfaction over our relations with Japan. To this day, for example,—notwithstanding prolonged negotiations between the Soviet-Mongolian and Japanese-Manchurian delegates—the important question of determining a frontier line on the territory in the area of military conflict last year remains unsettled. This is because the Japanese authorities continue to submit extremely impracticable proposals.

"The other day a member of the Japanese Diet suggested a settlement of this question, for example, by purchasing the maritime region and other territories. The Japanese Diet member who put this question and is interested in the purchase of Soviet territory which is not for sale must be a jovial fellow. But in my opinion, his stupid questions will not help to raise the prestige of his Parliament. If, however, Japan's Parliament is so keen on trading why shouldn't its members raise the question of selling the southern portion of Saghalien? I have no doubt that, in that case, ready purchasers would be found in the U.S.S.R."

RUSSIA STORES OIL

Fearing a possible oil shortage as the result of international developments, the Soviet Union was striving to store up stocks of liquid fuel, information reaching Tsuruga from Vladivostok revealed.

Included among the emergency steps taken, the reports said, were heavy purchases of American oil and the intensive development of Soviet oil deposits in the Far East.

Observers in Vladivostok attributed these measures to Soviet fears that :

(1) The United States may cut off oil sales to the Soviet Union through an extension of the "moral embargo" now applied against the U.S.S.R., or that the United States may find itself unable to supply oil to Russia because of heavy Allied purchases.

(2) That her own oil fields at Baku may be destroyed by an Allied push in the Near East.

The Black Sea oil fields are generally regarded by military experts as easily vulnerable, while increased British preparations to send Australian troops to the Near East by using such mammoth liners as the *Mauretania* and the *Queen Mary* as transports are watched with particular uneasiness in Soviet Russia, the reports said.

EXPLOITS OIL FIELDS

Fearing for their supplies in oil from the Black Sea sources, the Soviet are feverishly developing their oil fields in North Saghalien, the *Hochi Shimbun* learns. The goal of oil production from that source in the coming year has been put at 400,000 tons, it is reported. To do this, a pipe-line is under construction on the northwestern coast of Saghalien.

Meanwhile, the Soviet Union is importing huge quantities of petroleum from the United States, the *Hochi* reports. Crew members of the *Kebi Maru*, which docked at Tsuruga said they had seen many Soviet and American oil tankers in Vladivostok. The *Hochi* estimates that approximately 2,140,000 drums have been shipped to that port from the United States since September last.

Growing unrest in the Black Sea region where the principal Soviet oil fields are situated and the possibility that the United States may refuse oil to the U.S.S.R. are seen by the *Hochi* as two reasons for the unusual activity of Russian Far Eastern oil fields, not to speak of the possibility that Germany may need a large part of the Soviet-output.

Sea Leaves from Lo Pat's Garden

by Shamus of Rabbit

The desire to be great
Impels big hearts to great
deeds
And shrivelled natures to
snobbery.

The great express
Their wisdom in such simple
form
That the many may
understand



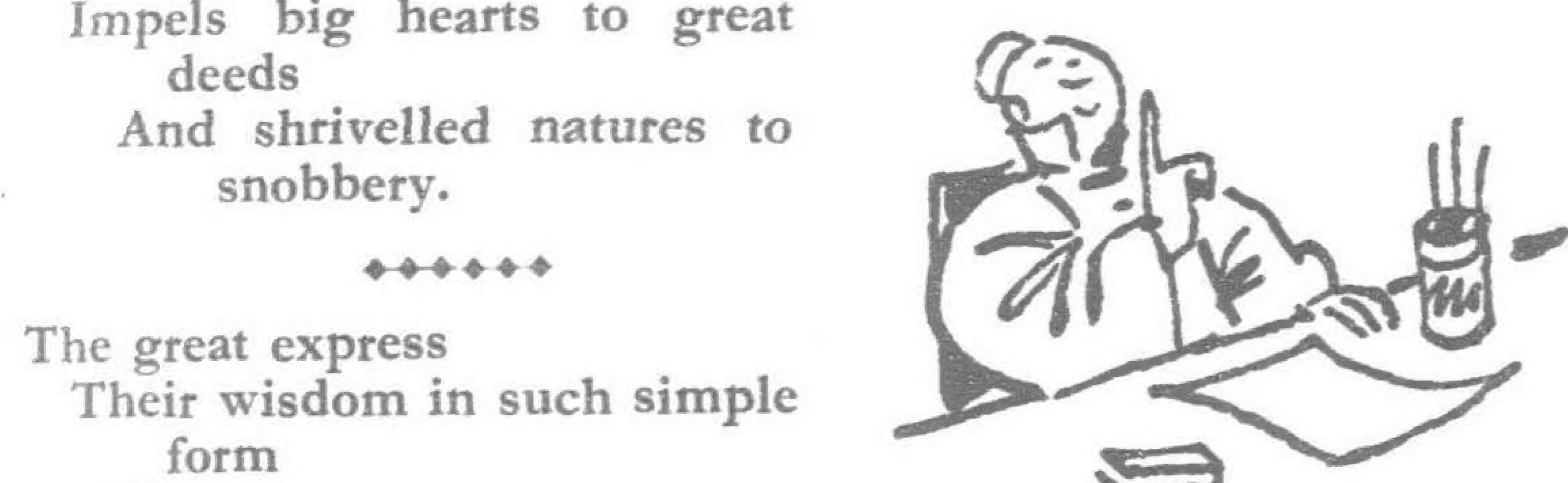
If we could have occasional mental "quakes"
There would be less change in our sense of values
When Calamity overtakes us.

Worry is like the pain of death
It exists mostly in anticipation.

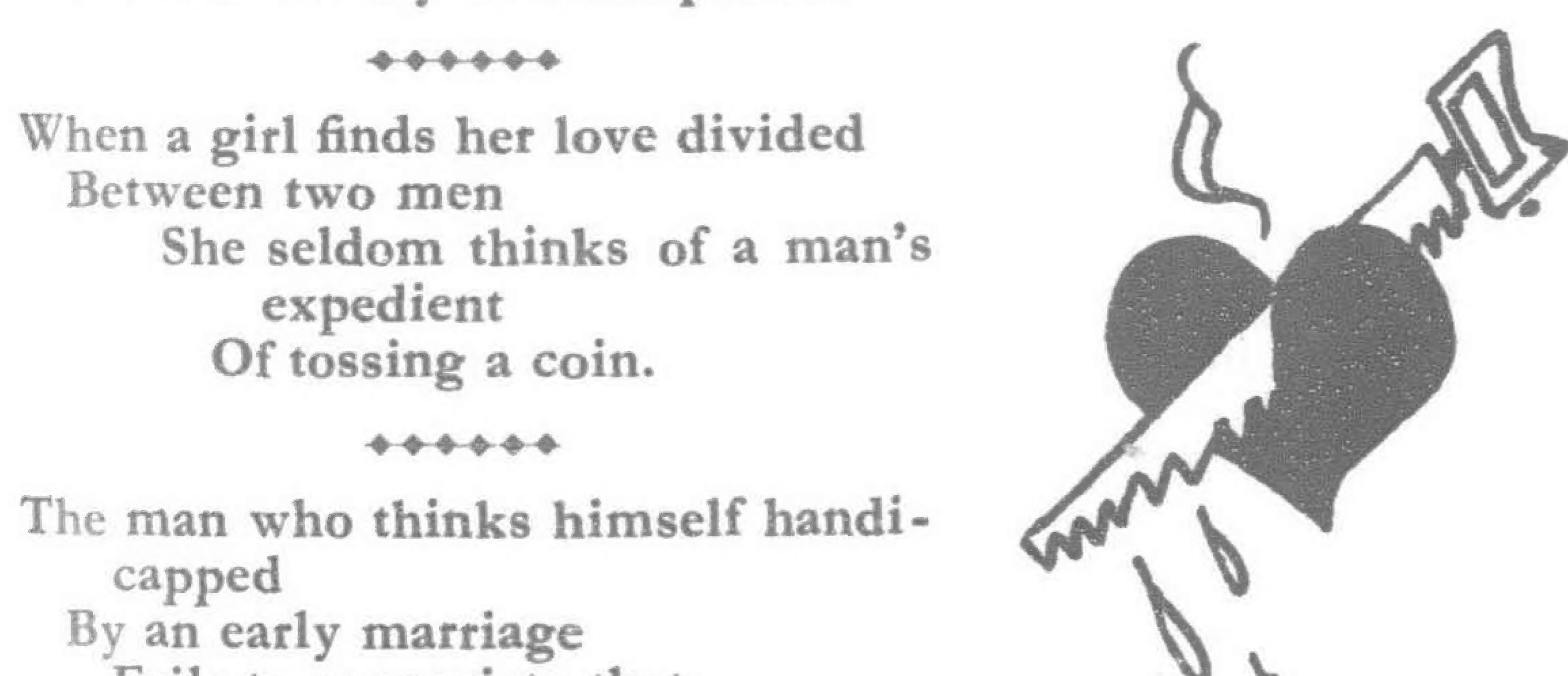
When a girl finds her love divided
Between two men
She seldom thinks of a man's
expedient
Of tossing a coin.

The man who thinks himself handi-
capped
By an early marriage
Fails to appreciate that
Its restraining influence
May have kept him out of
prison.

Not the least advantage
Of owning your own home
Is that you can call the landlord a tyrant
Without fear of being dispossessed—
You might also flirt with the landlord's wife
Without incurring her displeasure.



Most of us are oblivious
To the suffering in this
world
Until we meet with an
accident.
Even then we
forget
As soon
As the doctor's
bill is paid.



The desire to be great
Impels big hearts to great deeds
And shrivelled natures to snobbery.

Wisdom can be expressed in such simple form
That the many may understand



All great men may be simple
But simple men are not all great.

UNFORTUNATE SISTER:
One whose disillusionment
Was equal to her love
And who had too much courage
To sit around home and cry over it.

The man whose heart
Is most full of generosity
Oft has the emptiest pockets.

A hearty hand shake
Square look in the eye
A cheery and considerate word
A friendly smile
Oft denote a more generous soul
Than is possessed by a croesus
Famed for his
Philanthropy.

It is easy to admit the soundness
Of a philosophy
Which makes us appear virtuous.

Genius is colossal conceit plus
A perpetual unrest and dissatisfaction
With the world
As the masses see it.

Genius is an unrest bordering on insanity
Seldom if ever giving its victim
The easy existence
Which means so much
To Mr. Average Citizen.

Mr. Average Citizen
Is uncomfortable
In the company of Genius.

The genius lives not for himself
But is a victim of a cosmic force
Forever goading him.



China's Chance for Peace

By C. J. LAVAL

CHE conflict in China, the state of relations between the United States and Japan, and the entire scene in East Asia at the moment is eclipsed by the dark clouds that have gathered in Europe. Public interest throughout the whole world, forgetful of all else, is centered exclusively at this time on the progress of the vast conflict in which the stakes for humankind are higher than ever before in the history of man. No nation or no social group is so small or so obscure that it may hope to escape the effects of the events that are unfolding so swiftly in Europe. The face of the world is being changed and what new shapes the affairs of mankind will assume is being decided. The masses of the peoples of the world may only mark time and wait with dread until the war in Europe has been lost and won.

Events in the Far East that in normal times would flare into an importance that would attract world-wide attention now take place and overnight are lost sight of and forgotten. All that occurs in the Far East, or elsewhere, bears relation to and is but incidental to the major great conflict. Thus when Hitler's legions only menaced the borders of Holland, and before that country was conquered, the question of the rich Dutch possessions in the Far East was raised. The Netherlands East Indies with an area of 733,000 square miles form one of the richest regions in natural resources on the globe. From these Islands are shipped to the rest of the world oil, tin and other metals, rubber, tea, coffee, indigo and practically the world's entire supply of quinine. This land of vast riches with the densest population on earth, a prize that one time slipped through British fingers, must measure into special importance to any power.

Something more than a ripple, therefore, was caused when the Japanese Foreign Minister announced that Japan would view with acute concern any changes that might take place with regard to the Netherlands East Indies. Significant emphasis was given to this announcement immediately after it was made by Yakichiro Suma, Spokesman of the Japanese Foreign Office, who intimated that the Foreign Minister's announcement foreshadowed action by Japan.

An Issue that Remains Open

These statements brought an immediate reaction at Washington. Mr. Cordell Hull, the Secretary of State, declared that the East Indies supplied to the United States a number of essential products, and he warned the rest of the world to keep hands off. In diplomatic exchanges that followed at Tokyo and at Washington it was concluded that the views of Japan and the United States with regard to the East Indies were parallel—that both Governments desired only that the situation in the Dutch East Indies should remain unchanged. Formal announcement was made at London that the British Government contemplated taking no action and shared the views of Tokyo and Washington, and, with the French Government acquiescing, there the issue remains. This is not to say, however, that the fate of the East Indies has been decided.

The European war is increasing the uncertainties of the complex situation in China. Save in those north-side Hongkew areas that the Japanese control, the dominant influence in the International Settlement of Shanghai is British, as the French wield all authority in the French Concession of the Port. German commercial enterprises in Shanghai continue to carry on with mounting difficulties, and while German children under guidance of German instructors in the German School "Heil Hitler" zealously, their parents are being evicted from dwellings, apartments and offices by British, French and other landlords.

The areas in Shanghai that have flourished and prospered for a century under foreign control latterly have become a reservoir into which has drained a great portion of the wealth of all China. A high tide of treasure seeking security from the uncertainties, both in Chinese territory and the regions occupied by the Japanese, has been flowing steadily into the banks of Shanghai. Commercial activities of the Port of Shanghai thus have had stimulation derived from vast capital and trade movements have been brisk in the face

of many obstacles. Through these times the value of the Chinese dollar has sagged to ever lower levels and more and more the demand for and use of foreign currencies have been increasing. Production costs of every kind in Shanghai have trebled and quadrupled and the levels of living costs would make an Alaskan "sourdough" recall and live through again the days of the Nome gold rush in the late nineties when a plate of ham and eggs was priced at eight dollars. As these lines are written the value of the American dollar stands at about nineteen dollars in Chinese currency. Last week the ratio was more than twenty to one. What it will be to-morrow is unpredictable.

Hoarders Send Prices up

In the face of the existing situation a form of distrust of all currencies has developed and a direct result has been an immense amount of hoarding of essential commodities, resorted to both by speculators and by those, fearful of commitments in any currencies, who have been converting their capital into commodities. Before this situation arose it was the common belief of exporters that big profits were to be had by buying and exporting any and all Chinese products. Now, not merely have costs of all products doubled and trebled but, due to hoarding, many supplies are not to be had at any but prohibitive costs. Although most large employers have granted increased pay and concessions to workers, the advances in wages and salaries have lagged far behind the advances recorded in living costs. For the vast masses that in the best of times live near or below the subsistence level, and these number many hundreds of thousands, a ghastly prospect looms in the months ahead. In the face of widespread despair and destitution the bright lights still shine in the many gay night spots of the Port, roulette wheels spin, the dog and pony races attract thousands, swing bands blare in Shanghai's thousand cabarets and careless youth along with their elders dance on without a thought of the morrow. In the interior of the land the warring forces of Nippon and China continue the slaughter which started nearly three years ago.

The new Government at Nanking under Wang Ching-wei is making progress. It is known that since the arrival at Nanking of General Nobuyuki Abe, the former Premier, who was sent to China as Japan's Ambassador, negotiations have gone forward steadily and it is anticipated that shortly announcement of the conclusion of a new treaty between Japan and the Nanking Government will be made. In this way formal recognition of the new Nanking régime will be accorded by the Tokyo Government. It is not to be doubted that the terms of the treaty being drafted will follow closely the peace terms laid down by Prince Konoe when he was Premier, which furnished the inspiration to Wang Ching-wei to launch his peace movement, which has resulted in the formation of the Nanking Government. By these terms no territory will be ceded by China and no indemnity paid. The administrative and territorial sovereignty of the Nanking Government will be guaranteed, and the pledge of full co-operation from Japan will be given in bringing about an end of the hostilities and in beginning a new era of economic development in China. It is anticipated also that agreements will be made providing for gradual ultimate complete withdrawal of Japanese armed forces from China.

One of the developments taking form at Nanking will be the return to the Chinese Government of railway lines, which have been operating under Japanese control for the past two and a half years. While official announcement has been made that this will be done, the conditions under which the rail lines will be turned over to the newly organized Railway Ministry of the Nanking Government have not been made public. This is a subject of special interest to foreign holders of bonds secured by the railways. These have long been in default both as to principal and interest.

Innovations Foreshadowed

It is to be expected that a number of sweeping changes and innovations, which may affect alien interests in the foreign

controlled areas, particularly Shanghai, soon will be inaugurated by the Nanking Government. The organization of a new Central Bank of China is but one project which is foreshadowed, but details concerning this have not definitely been set forth.

It has been known that from the beginning after Wang Ching-wei's withdrawal from the Chungking Government of Chiang Kai-shek certain elements within the Chungking régime, of necessity silent, have been vigorously opposed to the Communist influence at Chungking and more than luke-warm toward the efforts of Wang Ching-wei to make peace with Japan and bring an end to the destructive warfare in China. It is believed that these elements are in accord with what is taking place at Nanking. In recent weeks serious differences have developed at Chungking between Communist leaders and leaders of the Chungking Government. Armed clashes assuming the proportions of open warfare have taken place between Communist forces and Chungking troops.

It seems probable that Mr. Josef Stalin, being preoccupied with events in Europe and with his attention diverted toward Bessarabia and the Balkans, will be content for the time being to let the Communist pot in China simmer. It is quite likely, too, that Russian stores of munitions, equipment and supplies that might have been sent to aid the Chungking Government are being depleted for other more urgent uses. This may mean an almost complete stoppage of supplies to Chungking from the outside. Assuredly no help for Chiang Kai-shek can now be expected from France or Britain, and recent efforts of a group of American zealots in Shanghai to obtain further financial credits for Chungking from the United States, it seems, have come to naught. The situation may well presage the collapse of Chungking's resistance to the Japanese invader, for soldiers in the field can continue to fight only as long as munitions and supplies are available.

In this present contingency may lie an opportunity for those groups in the Chungking Government that favor peace, and therefore silently approve the Nanking Government, to exert an influence to effect some form of rapprochement of the Nanking and Chungking régimes. Such a dispensation could only work to the advantage of the masses of millions of Chinese who have been the victims of all the warfare and destruction that has taken place in China since July of 1937. The major great obstacle that has prevented the opening of peace negotiations with Japan has been the influence exerted by Moscow over the Chiang Kai-shek Government, growing out of the alliance Chiang Kai-shek had to conclude with the Chinese Communist forces in the winter of 1936. Since open armed conflict has developed between Chungking's troops and the Chinese Communist forces the way to acceptance of the Nanking position of opposition to Communism in China now should be open to Chiang Kai-shek. He has all reason to rid himself of a faithless ally.

A Question that Awaits Answer

In the early months of the Sino-Japanese warfare, before Nanking had fallen, the German Ambassador at a conference in Hankow with leaders of the Chiang Kai-shek Government put forward terms under which the Tokyo Government then was willing to open negotiations to end the hostilities. When it was disclosed that the Japanese Government asked neither territory nor indemnity one of the Chinese Generals exclaimed, "If we can have these terms, why are we fighting?" The situation of the present day places Chiang Kai-shek in a position in which he should find reason to ask himself this same question with added force.

It is certain that the outcome of the warfare in Europe must have profound effects in the Far East, but it seems futile at this time to attempt any prophesies. Always an important factor in this part of the world is the action that may be taken by Russia. Purely from the Chinese viewpoint it now seems unlikely that the outcome of the European conflict, whatever it may be, will operate to the disadvantage of Japan. In the event that the United States actively enters the war on the side of the Allies, and the trend of public opinion in the States clearly runs in that direction, it will be quite within range of possibility that Japan quickly will be enabled to achieve every objective in China unhampered by any outside restraints.

Inevitably the war in Europe stretches far into the future. If the advances of the German armies toward the coast of the English channel are checked, then must ensue long months of bitter land warfare to win back from the Germans the immense areas their armies have thus far gained. If the German efforts to win to the

channel coast succeed, and even if England is invaded, there must remain the tremendous might of the British and French navies. The entrance of Italy into the war, which appears to be expected daily, has no certainty as yet, but even this factor will not prove to be decisive. Any part that Russia may elect to play, and assuredly Stalin will be quick to seize upon any advantage, must be confined to land action. While the strength of the Russian naval forces is an unknown quantity, assuredly Russian naval strength is not sufficiently formidable to play a decisive part even in the Pacific.

Japan in her part of the world has the factor of time on her side. While her supplies of essential products from countries of the western hemisphere may be curtailed by the European war and by embargoes in one form or another in the United States, it is to be remembered that she has had eight months time in which to prepare to meet new conditions created by the American abrogation of the Japanese-American trade treaty. In this period, it is known, that Japan has developed many new sources of supply both abroad and in territory under her control. With every passing month Japan has been growing increasingly independent of the sources of supply from which in past times she obtained essential raw materials.

It is not to be expected, therefore, that at this time with a world aflame she will depart from her policy of non-involvement in the war. Japan will conclude a peace treaty with the Nanking Government of China after which the warfare with the Chungking Government must degenerate into furtive guerrilla fighting, which may go on indefinitely until further resistance must collapse for want of supplies for the Chungking forces in the field.

The situation holds a unique opportunity for peace in China. The advantages of a new union of all the conflicting factions, in the interests of the whole people, should be apparent to the leaders both at Chungking and at Nanking.

The Andaman Islands

THESE islands were well known in ancient times. Their name is derived from the Greek "Agathon Daímonos" meaning good devil, following one of those plays on words so common in the naming of places.

They consist of a plateau 250 kilometers long and of an average width of from 25 to 30 kilometers. They are situated opposite the coast of Southern India. From the summit of the hills one of which attains 900 meters down the sea-level stretch forests in which no glades can be perceived. Up to a height of 50 meters the trees and lianas form one mass of vegetation in which animals venture scarcely more than man.

The inhabitants, called Andamanites, are divided into savage tribes who, renowned for their cruelty kept away all explorers from the archipelago. They paint the faces of their dead as a sign of respect, and when the flesh on the corpse has rotted, the bones are taken out of the grave and kept as a remembrance. Normally a widow wears the skull of her husband on a necklace and uses it as a receptacle for precious objects. Nevertheless, the Andamanites can easily bring up tears. When two tribes meet, the women commence by crying with joy and afterwards the men join in. The songs and dances only take place when the crying has finished.

Black, but having none of the characteristics of the negro, they always shave carefully using for this purpose sharp sea-shells. Always naked, they cover their bodies in the evening with a reddish ochre obtained from the thermal sources. They also use an olive colored mud which they mix with a fatty substance such as turtle oil. In this way they defend themselves against the attacks of mosquitoes.

With such a means of defence against these terrible insects, it is not surprising that these people suffer from the havoc of malaria. However, in these days malaria can be held in check. The Malaria Commission of the League of Nations has counselled the taking of six grains of quinine per day during the fever season and should the disease have already attacked the native, the application of a rapid treatment, namely 15 grains to 20 grains of quinine per day during five to seven days. On page 125 of its report, issued in 1938, this Malaria Commission stresses the fact that among the anti-malarial drugs, quinine still ranks first in current practice, by reason of its clinical effectiveness and almost complete absence of toxicity, coupled with the widespread knowledge of its use and dosage.

In this way, it should be possible to preserve a race which figures among the most curious in the world.

The American Navy Under Survey

By MASANORI ITO

(Contemporary Japan)

BOTH the Japanese Government and people have evinced extraordinary concern over debate on the Third Vinson Naval Expansion Bill before the American Congress. There are two reasons for such widespread concern: first, the political attitude which the United States has assumed toward Japan in recent months, and second, a general recognition that the American Navy's range of operations may possibly be extended to waters near Japan. The first reason is beyond the scope of this article, although the fact cannot be overlooked that the abrogation of the Treaty of Commerce and Navigation of 1911 and the United States' reluctance to enter into negotiations for its renewal or revision have left an indelible stamp on the Japanese mind as revealing an intention to negate Japan's policy toward China.

Such being the case, some wonder whether an eventual clash between Japan and the United States can be avoided. Japan's continental advance is an immutable national policy which admits of no change or concession before foreign interference, but the United States is apparently bent upon altering this policy by its refusal to co-operate. Moreover, the United States may go to such lengths as to interfere positively with Japan's policy. In either case, whether the American attitude is negative or positive, the present situation is fraught with danger. Thus in view of the present American naval expansion program, it is incumbent upon the Japanese nation to take a calm view of these developments and not attempt to provoke national sentiment against the United States.

I have no reason to indict the American naval expansion program itself, which is, of course, justified not only by American sovereignty in national defences, but also by the naval situation throughout the world. Three years ago, when Great Britain decided upon her five-year naval rearmament plan, I pointed out that one of its important results would be to stimulate American naval expansion, which in turn would affect Japan across the Pacific. Setting aside the question of its absolute necessity, it is the object of American naval policy to maintain parity with the greatest naval force in the world. It is natural, therefore, that the British expansion program will lead to further naval construction in the United States, which will again compel Japan to build up her own forces in order to meet the larger American fleet.

Any attempt, however, to fix responsibility for an armament race invariably ends in failure. But if viewed from another angle, from the standpoint of world peace, the American program is open to criticism. And again, if viewed from the point of view of established strategy for national defence, the American program raises a number of questions. If the present expansion measures are carried out, the United States will have a naval strength too big for legitimate defensive purposes. Can the United States, therefore, expect the world to recognize the strategic object of the American program in the light of national defence measures?

The First Vinson Naval Construction Bill, which was approved by Congress in the Spring of 1934, was designed to provide for six battleships and 96 auxiliaries of various classes, 102 vessels in all with an aggregate of 430,000 tons. This bill was intended to build up an efficient, well-balanced fleet for the United States. It cannot be taken, therefore, as an indication of the start of naval expansion on the part of the United States, for until it was passed, the United States had had the most powerful navy in battleships and A-class cruisers, but had been qualitatively inferior in the three categories of B-class cruisers, destroyers, and submarines, which had not been maintained in strategic ratio with battleships. Besides, the First Vinson Bill was intended to build up a treaty fleet, as recognized by the naval Powers concerned.

It was conceded as natural that the United States should replace those 15 battleships which were older than the *Oklahoma*, planned in 1911, while ten light cruisers were too small for the United States. There were 223 registered destroyers in the American Navy, but most of them were out of date, being emergency craft built in 1918 and 1919, so that only 50 were serviceable as first line vessels. Of the 91 submarines, about 20 were of modern type. The Vinson Bill thus aimed to replace superannuated battleships and to meet the strategic requirements in auxiliaries by the construction of modern vessels.

As this bill was approved in 1934 when the London Naval Treaty of 1930 was still in force, it may be contended that the United States only exercised her treaty right in building 96 auxiliaries within treaty limits. For this reason, I did not regard the First Vinson Bill as a provocative bid for a naval race. At the same time, however, I could not forget the fact that a treaty fleet, composed of warships of the latest type endowed with great mobility, would find it easy to extend its offensive operations to waters near Japan proper with Pearl Harbor as a base.

It is generally agreed that all warships built under the First Vinson Bill have been outstanding successes, entirely different from the heavy cruiser *Salt Lake City*, built in 1929, and the *Pensacola*, built shortly afterwards. Those two vessels apparently did not come up to expectations, but the cruiser *Brooklyn* with 6-in. gun calibre, the first vessel completed under the Vinson plan in 1938, is indeed impressive. Fifteen 6-in. guns are not extraordinary armament for a 10,000-ton cruiser, while the speed of 33 knots per hour may not be remarkable. The armor plate of the *Brooklyn*, however, is more than twice as strong as that of any other heavy cruiser in the world, thus overcoming the greatest defect common to this type of vessel. Moreover, the *Brooklyn*'s range of operations is estimated to extend over 12,000 miles, a record for all surface boats.

The destroyer flotilla was generally believed to be the greatest weakness of the American fleet, but remarkable progress has been attained on this point too under the Vinson plan. For example, the *Craven*, the first destroyer constructed under the Vinson plan, has a displacement of 1,500 tons, she apparently has as efficient fighting power as any other first-class destroyer in the world. Her armament is four 5-in. guns and sixteen 21-in. torpedo-tubes. Her speed of 37 knots per hour may not be exceptional, but the *Craven* is believed to possess a cruising range greater than of any British or Japanese destroyer, as may be seen from the fact that she takes in 400 tons of heavy oil and can cruise 6,000 miles without depending upon depot-ships. The *Somers* class, which is built side by side with the *Craven* class, displaces 1,800 tons, is armed with eight 5-in. guns and has a radius of action estimated 7,000 miles. A submarine of the *Perry* class is said to be able to make a long cruise of 15,000 miles, though it only displaces 1,250 tons.

These three categories under review, the cruiser, the destroyer, and the submarine, have common features in that they possess exceptionally good armament and have a large cruising radius. Whatever weaknesses these vessels may have is made up by their unusual cruising power. This reflects a bit of naval strategy peculiar to the American program.

It is self-evident that the cruising range of a warship cannot be increased without sacrificing its armament. An increase in cruising range not only demands more space and weight for fuel and provisions, but also special facilities for the officers and crew, with the result that a certain amount of tonnage must be deducted from that allotted for armament. Definite figures are impossible to present, but a destroyer of the *Craven* class might be able to add another 5-in. gun to her armament should the cruising range be reduced from 6,000 to 3,000 miles.

Japanese warships present an entirely different picture from the American in that armament is strengthened at a sacrifice of cruising range. This testifies clearly to Japan's strategic plan, which is aimed at defensive operations in the Western Pacific. The Japanese Navy has no intention to undertake transoceanic operations, so that it can easily dispense with a larger cruising range and more comfortable quarters for officers and crew. By economizing on the allotment of tonnage for these two factors, the Japanese Navy is able to increase armament and armor plate.

All new warships of the United States are designed and built with a view to extending their cruising radius to the utmost. Such type of construction contemplates transoceanic operations. To put it in another way, the American naval building plan is based on offensive operations in waters thousands of miles from American bases of operations, namely in the Western Pacific, an area which the American Navy regards as the scene of its hypothetical battle. This is what is referred to when Japanese writers point to the menace of the First Vinson Bill.

There is no gainsaying the fact that the Vinson plan represents a legitimate exercise of treaty rights, but the new fleet built under this plan cannot be regarded in the same light as the old one, mainly because of its exceptional cruising radius. Japan's grave concern arises from the difference in an American fleet of 1,200,000 tons with a cruising range of 3,000 miles and another American fleet of the same tonnage with a cruising range in the neighborhood of 6,000 miles. The possibility that the new American fleet can easily operate in waters near to Japan can be seen from the fact that an American 1,500-ton destroyer of the *Craven* class can make a 6,000-mile voyage without support. Thus an American "raider" squadron, when supplied by such an advance post as Wake or Midway Island, would be able to operate along the major trade routes of Japan for more than a week, while it would experience no inconvenience in joining the main fleet in a decisive battle. Incidentally, it may be mentioned that the 6,000-mile cruising range of a destroyer is almost the same as that of a battleship at the time of the Washington Conference, which is illustrative of the phenomenal increase in the mobility of warships.

During 1933 and 1934 when the situation between Japan and the United States was strained as a result of the Manchurian incident, almost none of the American destroyers had a cruising range of 6,000 miles, though some 30 American destroyers had a cruising range of 5,000 miles. This shortcoming entailed serious restrictions on the operations of American battleships in the Western Pacific. It is commonly recognized by naval strategists that transoceanic operations by fifteen battleships require a minimum flotilla of 90 first-class destroyers. Without such an auxiliary force, any big battleship fleet could not be expected to give a full display of its efficiency. This is the reason why I have devoted so much attention to the American destroyer-building program. This is also the reason why I have inferred that these new destroyers indicate that American naval policy is aimed at transoceanic operations, especially in the Western Pacific.

While the American Navy was being built up to treaty strength, the Second Vinson Bill was approved by Congress in 1938, aiming at a twenty per cent increase in the American fleet, which was about 1,200,000 tons under treaty provisions. Under the second plan 72 vessels will be built including two super-battleships of 45,000 tons each, an aggregate total of 400,000 tons. This represents the first American step to meet the treatyless situation in naval affairs. American naval construction plans, including the First and Second Vinson Bills and the naval building program which followed the industrial reconstruction plan of 1933 (providing for the building of 32 vessels totalling 120,000 tons) will give the United States the following ships: 8 battleships, 5 aircraft carriers, 21 cruisers, 100 destroyers, 41 submarines, and 30 special service ships; 206 vessels in all with a total of 950,000 tons.

It is significant to note that the total strength of these new American warships exceeds the entire Japanese naval force in 1940 by more than 100,000 tons. Of these new craft, over 90 (including six battleships) are under construction, while the keels of over 70 ships are not yet laid. Nevertheless, construction work on 24 additional ships will begin in the course of the present year. By 1942 it is believed that all these vessels will be completed with the exception of two super-battleships.

In addition to such a gigantic naval construction plan, another naval expansion bill has been introduced in the current session

of Congress. It is known as the Third Vinson Bill, and provides for the construction of 3 aircraft carriers, 8 cruisers, 52 destroyers, 32 submarines, and 31 special service ships at an estimated cost of \$1,300,000,000. Strong opposition, however, was raised against this bill in view of the fact that the keels of over 70 vessels, provided for by the First and Second Vinson Bills, have not yet been laid. As a result of this opposition, the scope of the new bill has been reduced to 43 vessels, and this amendment is likely to pass Congress.

The amended bill, however, does not represent any actual reduction in the proposed expansion program. It merely divides the original program into two stages. The original bill called for an expenditure of \$1,300,000,000 for the construction of 95 warships in six years, but the amended bill which passed the House of Representatives calls for an outlay of \$650,000,000 to construct 43 vessels in two years. It may be contended, therefore, that the amended bill contemplates even greater naval expansion than the original one. In either case, by this building program the United States is carrying out an extended renovation of its fleet, both qualitatively and quantitatively, and at an exceedingly brisk tempo. Japanese observers cannot escape receiving the impression that by this program the American Navy plans to extend its range of operations to the Western Pacific.

As early as 1916 it was contended that American naval policy contemplated taking the defensive in the Atlantic and assuming the offensive in the Pacific. This contention has subsequently been substantiated too clearly to require comment here. The point to consider, however, is whether such naval strategy is possible. It was generally believed until four or five years ago that considerable difficulty would attend the execution of such naval strategy, due to an insufficient auxiliary force and the lack of proper facilities at the advance bases. Thanks, however, to a series of naval expansion plans, it is now expected that the United States Navy will be in a position to carry out its cherished strategy in a few years, thus accentuating the antagonism between the Japanese and American navies.

In 1921, when the Washington Conference was discussing the question of a naval ratio between Japan and the United States, I wrote a number of articles for the *Philadelphia Public Ledger* and the *Baltimore Sun* regarding the "stabilized ratio," urging that the naval ratio between the two countries should be fixed so as to make the Japanese and American naval forces insufficient for offensive purposes but sufficient for defence in order to guarantee the stability of the Pacific. I have adhered to this contention for the past twenty years, and in concluding this article, I wish to emphasize it once more.

A naval agreement providing for forces "insufficient for offensive but sufficient for defensive purposes" can be concluded on the basis of a ratio of global tonnages of the navies concerned or by restraint on strategic principles. In a naval agreement concluded on the former basis, the ratio of superiority to be maintained by one navy over the other must be limited to 30 per cent or less. In former times (during the naval race between Great Britain and Germany), it was contended that such a ratio of superiority had to be limited to 50 per cent, but to-day 30 per cent is sufficient in view of the remarkable increase in mobility of present-day fleets. A naval agreement based on restraint on strategic principles presupposes an abandonment of offensive strategy by basing naval construction policy along defensive lines. In other words, the navies concerned would have to exercise a restraint on their strategic principles by concentrating attention on the defence of their respective territorial waters and by not designing vessels capable of operating in waters near foreign countries, thousands of miles from home bases.

Such a defensive policy has been and is strictly adhered to by the Japanese Navy, which has never contemplated assuming offensive operations near American waters. In my opinion, the United States may maintain a standing navy superior to Japan's naval force if only the American Navy is not organized and equipped for transoceanic operations. What is important is to revise this undue ratio of superiority and for Americans to amend their mental attitude toward naval policy. When we ask the United States to do so, I firmly believe that we are not making unreasonable demands. For the sake of future Japanese-American relations and for the cause of world peace in general, it is essential that both the Japanese and American navies be maintained strictly upon a defensive basis.

France in the Far East

By CHARLES A. KINCAID, C.V.O.

(*The Asiatic Review*)

At the request of the Institute of Pacific Relations two eminent French writers have recently published books on the French in the Far East.* Written with the usual Gallic distinction, they enable the English writer to grasp easily the difficulties and the achievements of the French people in Eastern Asia.

In the first of those two books, M. Lévy has described the relations of France with Japan, New Zealand, the Dutch Indies and the Malay Peninsula; but, as is natural, the main part of his work deals with the French connection with China. This goes back to the seventeenth century, when French Jesuits had acquired considerable influence with the Chinese Government. Unhappily the Imperial favor roused against the Jesuits the jealousy of other Catholic congregations. The Chinese Government, weary of their altercations, dismissed the Christian missionaries. Although individual French divines remained, French political influence dwindled to nothing until the signing of the Treaty of Tientsin in 1858, supplemented by the Berthémey Convention of 1865. The Treaty and the Convention conferred on the French Catholic missions the right of protecting not only Catholic converts of all nationalities, but of representing Christian missions of all denominations. Of the high contracting powers—viz., Russia, England, the United States and France—the last was the only Roman Catholic one. It was therefore natural that France should be appointed protector of all Catholic missions. Her nomination as representative of Christians of all sects was a high tribute to her excellence in literature, arms and diplomacy.

Unhappily this privileged position has since been greatly curtailed. The Chinese Government have forbidden foreign missions to acquire land. Germany and Italy have insisted on protecting the rights of their own missions. Nevertheless French Jesuits at Shanghai and Lazaristes around Peking have continued to teach to the Chinese youth the most lucid and flexible of modern languages. Recently, however, the immense growth of English and American commerce in the Far East has made a knowledge of the Anglo-Saxon tongue a necessary part of every Chinese gentleman's education. Still the French Jesuits have the whole-hearted support of the Vatican; and since their liturgy is conducted in Latin, Catholic Chinese have no great difficulty in learning French owing to the similarity of the two languages. The Jesuits have also risen to the occasion and are now ready to teach their converts English provided they also study French. At the present moment the French missionaries own 6,722 churches in China, while their Chinese followers number 1,817,921.

The financial interests of France in China were at one time second only to those of England. The savings of the French people went in millions to build Chinese railways, canals and public buildings. For many years the Imperial Government paid regularly the interest due to French bondholders. In more modern times the collapse of the Chinese administration has caused the dividends to vanish. Once again, however, French investors are lending money to Chiang Kai-shek in the hope that he may restore good government. Once France supplied the bulk of the weapons and munitions needed by Chiang Kai-shek's armies by means of the Haiphong-Yunnan Railway. Unfortunately, the French Government, "with prudence pushed to extreme lengths," yielded to Japan's demand to stop their transport. This act of prudence or weakness threw the arms trade into the hands of the English. A great motor road has been built across Burma from Rangoon to Yunnan. Thence the Chinese have continued it to their present capital. For the moment, owing to the Germanic peril, no increase in French influence nor in trade can be anticipated. There is, however, no reason why, after the present war, a victorious France should not once more recover the privileged position of the Second Empire.

The work of M. Charles Robequain, although longer than that of M. Lévy, is confined to French Indo-China. Here, again, it

was the zeal of the Society of Jesus that first brought the French to China. The most notable of these Jesuits was Father Alexander of Rhodes. Born in Avignon in 1591, he reached Tonkin in 1627, where he made a long stay. He wrote several books that until the nineteenth century remained the chief source of information about the country. After the missionaries came the traders, and in the eighteenth century the French East India Company began to explore the commercial possibilities of Indo-China. In 1787 a French force reinstated an Annamite prince, Nguyen Anh, who had been driven from his country by a revolt. The grateful monarch bestowed on the King of France a seaport and an island.

The Revolution destroyed the good relations of the two countries, and the Annamite emperors began to persecute the missions. In 1859 a joint Franco-Spanish expedition took Saigon, and by 1884 the French were masters of a large part of Cochinchina and were protectors of Annam and Tonkin. In 1893 Siam ceded the district of Laos. Finally, by the Franco-Siamese Treaty of 1907, the frontiers of Indo-China were definitely settled. The administration of the new possession was made admirably efficient. A French Governor-General is in complete control. Cambodia and Annam are his protectorates. Tonkin and Laos have still native princes with limited powers. In Cochinchina rules a French Governor under the orders of the Governor-General.

The population of French Indo-China is 72 per cent Annamite. In the tenth century A.D. this warlike people began to overflow into the rich south. They absorbed from India a high civilization that found expression in the marvellous temples of Angkor so admirably restored by the devotion, energy and learning of the Ecole Française d'Extrême Orient. The next largest group are the Khmers of Cambodia, but in addition there are numerous smaller communities—viz., Thais, Muongs, Indonesians, Mans and Meos. The last three are the mountaineers of Indo-China.

The French conquest naturally produced an immigration of Europeans; but their number has never been large and it does not increase. The Annamite takes readily to education, and it has been the French policy to fill the lower grades of the civil services with natives as rapidly as possible, so as to avoid the presence of underpaid discontented Frenchmen, who might tend to lower the repute of the administration. In 1937 the Europeans of both sexes barely exceeded 43,000, and when it is realized that this figure includes Japanese, Filipinos, Pondicherry Indians and half-castes, it will be admitted that the total is not excessive.

The pacification of Indo-China stimulated the immigration of another foreign race—namely, the Chinese. Annam long formed a part of the Chinese empire, and during that period Chinese immigration was considerable. Moreover, the immigrants married as a rule women of the country and were extremely prolific. The independence of Annam checked the advent of the Chinese; but the conquest of the French enabled Chinese immigration to begin again. It increased with the disorder of China. The intellectual superiority of the newcomers over the natives, their industry and their power of combination, gave them a great advantage, and they were for a time preferred as Government clerks in the public offices; but the teaching of the French schools and the example of the diligence and clear thinking of the French have created a supply of young Annamites who are the intellectual equals of the Chinese. Knowing the country and speaking the language as their mother tongue, they are now obtaining, as is only right, a larger share of the public appointments.

One of the most important questions that face a European Government in the East is that of transport. Transport in Indo-China had been almost exclusively river-borne. The country was fortunate in the number of its navigable waterways. The chief

(Continued on page 192)

**La Politique française en Extrême Orient, 1936-1938*, by Roger Lévy (Paris: Chambre d'Etudes de Politique Etrangère); *L'Evolution économique de l'Indo Chine française*, by Charles Robequain (Paris: Paul Hartmann).

The Development of Netherlands Administration in the East Indies

By CHARLES M. MORRELL, F.R.G.S.

(*The Asiatic Review*)

In order properly to appreciate the Netherlands administration of their Far Eastern Empire, it is necessary briefly to examine the historical events out of which the present-day structure has arisen.

For many hundreds of years the general conception of a colony was a place from which the so-called mother country could extract the greatest amount of wealth in the shortest possible time—the welfare of the inhabitants of the colony in question was of no importance at all. The object of this article is to show how the original quest for wealth which attracted the Portuguese, Spanish, Dutch and British merchant adventurers of the sixteenth century to the Far East, coupled with their commercial rivalry (which generally meant war), has, through tortuous stages, gradually led to the Netherlands administration of the present day, which is universally admitted to be a model of good colonial government, laboring unceasingly for the welfare of the natives.

The opening of the sixteenth century marks a long series of struggles between the above-mentioned European Powers and the various native inhabitants of the Malay Archipelago, which did not finally cease until the nineteenth century. Sometimes these powers fought amongst themselves for the natural wealth of the Archipelago, sometimes against the natives, but it was always the natives who suffered.

The Portuguese appear to have been the first on the scene; in 1511 they captured the town of Malakka on the mainland of Asia, after which they sailed further south-east and arrived at Bantam in West Java. The following year the Portuguese reached the Celebes and settled there. They also settled in North Sumatra.

In 1521 the Spaniards arrived in the Moluccas under the leadership of Magellan, who had previously successfully penetrated the Straits which now bear his name. It was not until 1529 that the Spaniards actually established themselves in the Moluccas, and three years later they were bought out by the Portuguese, and, it is stated, renounced their claim against a payment of 350,000

ducats, but not before friction had taken place which resulted in fighting and finally the forcible expulsion of the Spaniards.

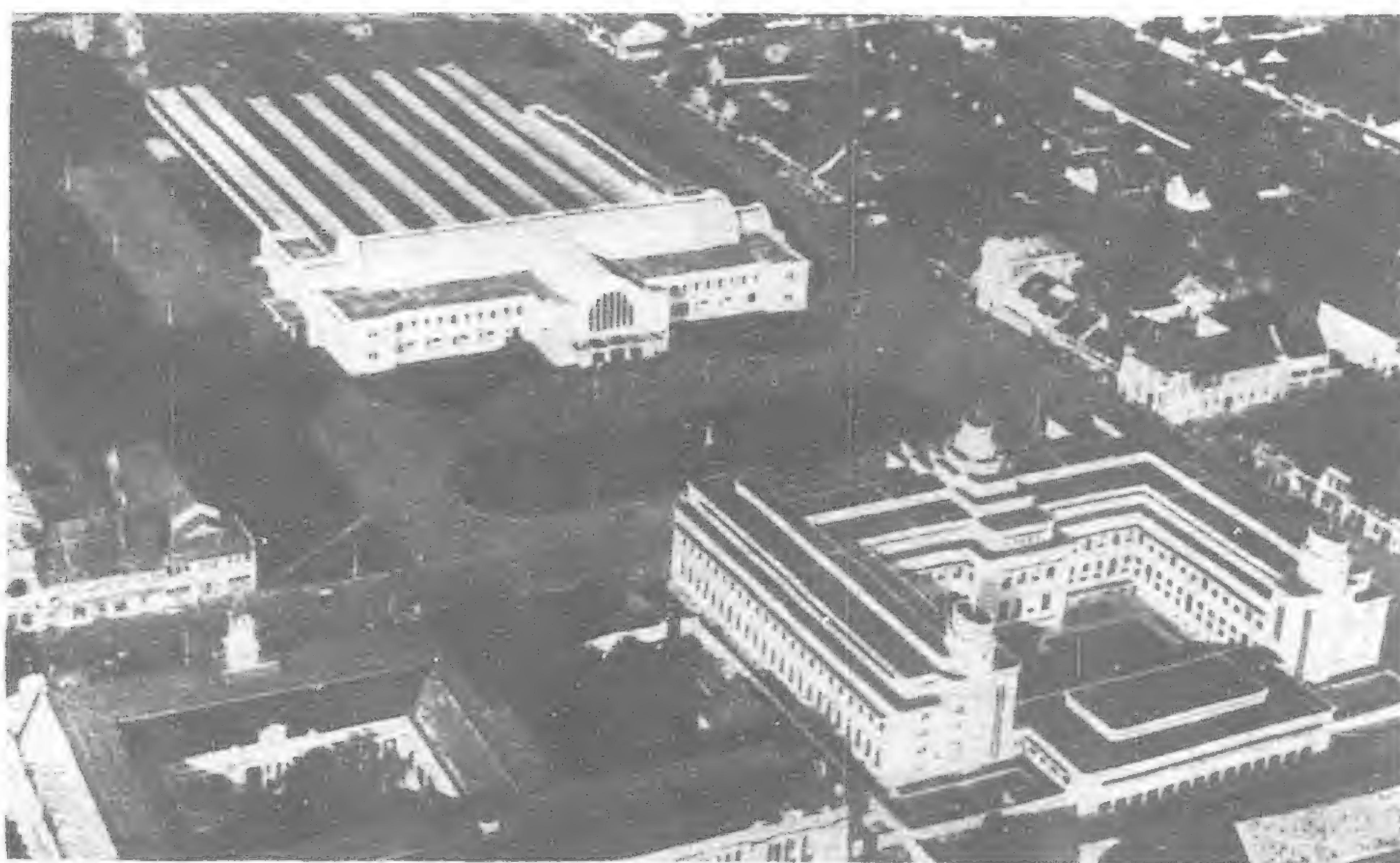
In the Philippines, however, the Spaniards had more success, and captured Manilla in 1571. The first English to visit the Archipelago were Drake and his companions in 1578 during their famous voyage in the *Pelican*. In the meantime Portugal had become a dependency of Spain, and the close of the sixteenth century seems to mark the decline of the Spanish-cum-Portuguese power in the Archipelago, and to-day the only piece of territory which remains Portuguese is a portion of the island of Timor many hundreds of miles to the east of Java.

The Dutch arrived under Houtman in 1596, and the struggle for supremacy became mainly a three-cornered one between the Dutch, British and the many native races. The Spaniards—based on the Philippines—occasionally joined in the hostilities, and although, with the Portuguese, they occasionally achieved some successes, their final decline was only a matter of time, and it was Van Dieman who finally delivered what seems to have been a mortal blow by capturing Malakka in 1642. Possibly the fact that Portugal had previously been separated from Spain and had become independent contributed to her downfall. It is recorded that various British commercial missions visited the Archipelago, notably those sent by Queen Elizabeth and James I. of England. One of them visited Makassar and concluded a commercial treaty with the local king. About 1680 the British sent a mission from Madras to Achin (North Sumatra) in order to obtain permission to build a factory there; they failed to do so, but then turned their attention to South Sumatra, and finally succeeded in establishing a settlement at Bankoelen on the south-west coast.

Generally speaking the whole of the period under review—i.e., up to the end of the seventeenth century—was characterized by a series of intermittent wars, massacres and other atrocities, which continued into the eighteenth century and caused great misery amongst Europeans and native (including the Chinese)



Tandjong Perak, Harbor, Sourabaya



Railway Station and Head Office of the Nederlandsche Handel Maatschappij (Netherlands Trading Society), Batavia

inhabitants, but the sufferings of the latter were immeasurably the greater. Nevertheless, it was during the latter part of this period that Holland's power gradually increased, and by the beginning of the nineteenth century she was the predominant power in the East Indies.

The last decade of the eighteenth century witnessed the rise of one of the world's greatest and most picturesque figures—Napoleon, whose dynamic energy and ability subjugated the whole of Europe (with the exception of Great Britain) in an incredibly short space of time.

Britons may thrill with pardonable pride when they remember that it was Wellington who first demonstrated to the world that Napoleon's troops were not invincible, and that the "nation of shopkeepers" possessed men—led by a man—who knew how to protect their shops. The story of Wellington's (at the outset, Sir Arthur Wellesley) exploits in the Peninsula is an epic. He had a small army, feeble support from the British Government, and unreliable allies who were always quarrelling with him and each other. In spite of these and other almost insuperable difficulties, and faced by the hardened fighters who had conquered a continent, Wellington's patience, perseverance and extraordinary military skill had their reward; the French were finally driven over the Pyrenees and French territory invaded. The writer hopes he may be pardoned for this digression.

By 1811 Holland's East Indian colonies, following the fate of the Netherlands, had become a part of the French Empire. It was then that Thomas Stamford Raffles started his great work, the beneficial results of which exist in the East Indies to-day. Thanks to Raffles, Java was successfully invaded by the British in 1811, became a British colony and remained so until 1816, when, after the removal of the Napoleonic menace, the East Indies were returned to Holland by the Congress of Vienna. Raffles was Lieutenant-Governor of Java, 1811-1815, and in those few years accomplished an immense amount of work in the interests of the natives. It is recorded that "the native population—chiefs and subordinate people—with accord hailed the new order of things as a boon." Space does not permit even a short review of the many and varied reforms which Raffles introduced, but his primary aim was (to quote a well-known authority) "to use the opportunity of bestowing on a whole nation the freedom which is everywhere the boast of British subjects." He was brilliantly successful, and his reforms and institutions covered a vast range—mainly legal, social and agrarian. Many are substantially operative to-day—in fact, some of the present methods of Netherlands government in the East Indies are based on Raffles' original conceptions. In fairness it should be recorded that Raffles was ably and loyally assisted by the Dutch officials and very little friction took place.

Under the decision taken by the Congress of Vienna, Java was handed over to the Netherlands authorities on August 16, 1816. Raffles had left Java before they took possession.

The Raffles era had been brought to a close, and the Dutch, in 1816, had again become rulers in the Archipelago. Their task was by no means easy, especially in view of the fact that, whilst prior to the advent of the British, the Dutch rulers were representatives of a commercial company—i.e., the Dutch East India Company whose sole object was the accumulation of wealth for its shareholders—they were now Government officials representing their sovereign.

Past events had undoubtedly shaken their prestige, and their first and most obvious duty was to restore that prestige—a task in which they were ultimately brilliantly successful, although it naturally took many years to perform.

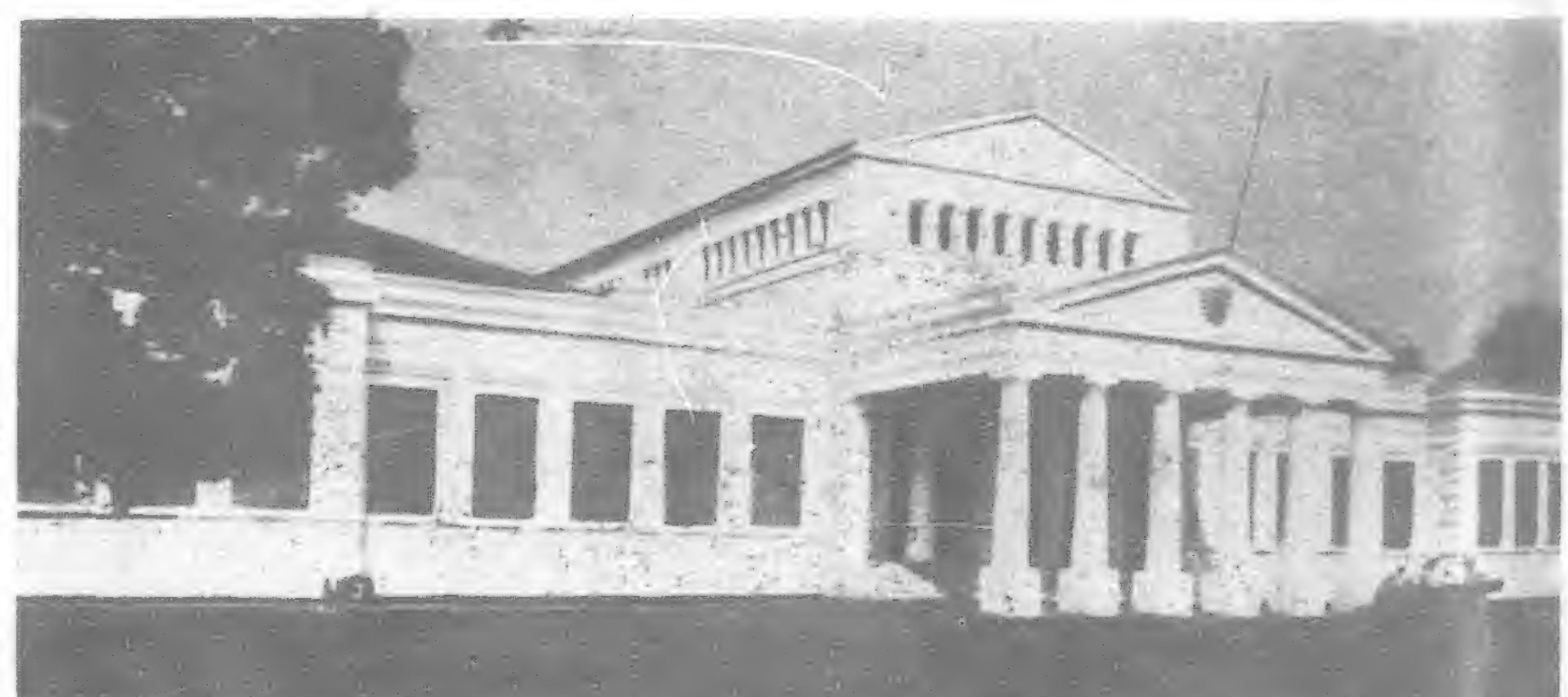
Raffles had been succeeded in 1816 by John Fendall, who remained at his post for a few months and automatically retired when Java came once more under Dutch rule. His successor was Godert Alexander Gerard Philip Baron van der Capellen.

Of this period a historian writes: "Both Daendels (a former Governor-General of the Indies) and Raffles had learned from experience how difficult it was to break away from old institutions. They had, nevertheless, through their personal energy, set out in the right direction, and the Commission which took over the colonies from the British, conscientiously intended to continue in this direction until one of its members, Baron van der Capellen, went right back to the old methods, and thus automatically prepared for the 'culture-system' epoch, which meant a complete return to the era of the Company in its most evil form."

The good work of the Commission continued until the end of 1818, when it was dissolved, and Baron van der Capellen remained as head of the Government. Then were quickly perceived his leanings towards the old basis of the (Dutch) East Indies Company, the basis of force and monopoly, which at one fell swoop nipped in the bud all the good intentions of the Commission.

Van der Capellen's intentions may have been good; he may have had in view the clearing out of the foreigners—probably Chinese—who may have been taking advantage of the natives; but be that as it may, it soon became apparent that trouble was brewing, and finally an edict relative to land tenure, issued by the Buitenzorg authorities, seems to have been the spark which started the Java war (1825-1830).

The natives, ably led by Dipo Negoro, proved themselves to be first-class guerilla fighters. Vast damage was caused in Middle Java, and it was not until Fls. 20,000,000 had been expended and 15,000 Europeans killed that peace and order were restored. Dipo Negoro died in exile in Makassar in 1855. The good results of the Java war are stated to be as follows: A great number of abuses were brought to light and rectified; the boundaries between the two *Vorstlanden* were better defined which brought to an end the innumerable differences which the former complicated boundaries had caused. The taxation system was revised and improved, and duties were abolished; also the edict concerning land



Museum, Royal Batavian Society of Arts and Sciences, Batavia

rent contracts (one of the causes of the war) was withdrawn.

Johannes Van den Bosch became Governor-General in 1830, and high hopes were entertained that his ability would rectify the desperate financial plight into which the East Indies had fallen. It was he who put into practical operation the much discussed, criticized and abused, but nevertheless highly successful Culture System. Van den Bosch started off from the basic theory that the principle of enforced cultivation justified its adoption in preference to the free-cultivation principle. Amplified, the principle of the Culture System laid down that the only means of obtaining the greatest possible quantity of cheap produce for the motherland was to force the people to raise crops for the Government at low prices.

It is more than probable that the King of the Netherlands appreciated the disadvantages of what amounted to systematically enforced labor, but he undoubtedly felt that this was the only means by which the Archipelago's finances could be put on a sound basis.

It is impossible and unnecessary to set out here the full details of the System, but the following may be of interest :

Governor-General Van den Bosch defended the principles of the System by showing that under the former Javanese régime the native rulers had, by way of taxation, the right to certain portions of their subjects' crops. Obviously, the productivity of the ground, and consequently the proportions of the crop, varied according to the district, but Van den Bosch estimated the average at one-fifth ; this fifth was stated to be equal to a fifth part of the time and labor of the agriculturalist, so that the ruler could demand sixty-six days' labor in lieu of the fifth of his crop.

As the kingdom of the Netherlands had become the rulers, Van den Bosch decreed that, with the exception of the *Vorstenlanden*, each *dessa* (village) should hand over one-fifth of its harvest to the Government, whilst those who had no share in the communal *dessa* land were obliged to work sixty-six days in the Government estates.

In order to avoid the production of crops which were of little or no value to the European trade, Van den Bosch also decreed that the Government should choose the crops which each *dessa* should cultivate on the fifth portion of its land, and the amount to be paid for the same.

The Culture System remained substantially operative for some forty years : in spite of its ethical shortcomings and the hardships it inflicted, it was certainly most beneficial to Java. It is estimated by Dutch historians that it yielded some Fls. 832,000,000, and it certainly saved the financial situation. Incidentally, it was the means of teaching the natives to work and cultivate scientifically.

The Culture System was undoubtedly one of the most important economic events in Netherlands Indies history, and paved the way for the twentieth-century prosperity of both European and native.



Railway bridge near Padalarang

The story of how the Outer Possessions (i.e., the *extra Java* islands of the Archipelago) gradually came under the administration of the Dutch is an interesting one, which, however, is too long to be related in these pages.

Let us now briefly examine present-day methods and their benefit to the natives. The fact that the present population of the Netherlands East Indies is no less than 70,000,000 will convey some idea of the magnitude of our Dutch friends' never-ending task.

The Netherlands East Indies form an integral part of the Kingdom of the Netherlands, so that the supreme seat of legislation is in Holland—that is to say, the Queen and States-General constitute the highest legislative power. Nevertheless, in accordance with modern conceptions, a transfer of authority from the Motherland to the Indies is gradually taking place so that it is possible to visualize complete autonomy in the future. The time which must elapse before this actually comes into being very largely depends upon the capacity of the heterogeneous inhabitants of the Netherlands East Indies to develop those many and varied qualities which are essential to a self-governing country. The Governor-General of the Netherlands East Indies carries out his administrative duties in the name of the Queen, and in both his legislative and executive capacities he seeks the advice of the *Raad van Indie* or Council of the Indies, of which he is automatically the president. He is also assisted by the heads of Government Departments and the Commanders-in-Chief of the Army and Navy. The General Secretariat conducts official correspondence and executes decrees.

In 1918 a representative body was created and is known as the Volksraad or People's Council. It was originally designed as an advisory body, but its power has since been increased so that the Governor-General is obliged to bring before it various governmental matters. The Volksraad, as at present constituted, consists of twenty-five European members, thirty native members and five of other origin—mainly Chinese.

Politically, the Netherlands East Indies are divided into the islands of Java and Madoera and the Outer Possessions. These are re-divided into directly administered territory and self-administering territories. The self-administering territories, in which the highest authority is vested in native executive bodies, are subject to a certain measure of control by the Central Government to which they are bound by contract or by treaty. Their executive bodies have a more or less extensive right to self-administration (with their own budget, their own legislation, their own judicature, etc.). The best-known self-administering regions are the so-called principalities in Java (Soerakarta



Tjililitan airport near Batavia

and Jogjakarta), and in the Outer Provinces: Deli, Langkat, Serdang, Asahan and Koetei. There are further sub-divisions into governorships, residences or assistant-residences, according to the importance of the locality; and the general—and very wise—policy is that as far as practicable the native population is governed by the natives themselves, and guided by the Dutch. This form of beneficent colonial government works admirably, and is, *inter alia*, an instrument by which the evolution towards autonomy is observed and its tempo regulated.

Sanitary conditions in the Netherlands East Indies contrast very favorably with other Asiatic countries. This is due to the unremitting vigilance of the Government, which especially became prominent when, in the year 1911, a special service was organized, which in later years was called the Public Health Service, administratively belonging to the Department of Education and Worship. As it appeared that the number of European medical doctors was by no means sufficient to supply the needs of the extensive population, a beginning was made in the way of training a native medical staff. Gradually medical education extended, until finally a medical university was established in Batavia. A considerable share of the task done by the Public Health Service is actually carried out by native doctors, while a large part of the lower staff is likewise recruited from the native population. Thus the opportunity exists of following a course, enabling a candidate to obtain the position of assistant nurse (male or female). When this certificate is obtained, he/she can continue his/her studies and obtain the diploma of assistant in the laboratory, accoucheuse or assistant nurse, Grade I., which latter category is placed on the same level as assistant doctors. This training is done in hospitals with favorable results. Furthermore, courses may be followed for becoming dentist, chemist's assistant, analyst, inspector of public health and vaccinator.

The pivot of medical research work is the Central Medical Laboratory, Weltevreden (Java), which is sub-divided into the following sections: hygiene, bacteriology, parasitology and tropical physiology, as well as sections for chemistry, pharmacology and toxicology and malaria.

Excellent work is also done by many laboratories and other institutions, including the Government Vaccine Institute, which provides vaccine for many million vaccinations annually, and the Pasteur Institute. In addition to three large Central Government hospitals, there are at least eight provincial hospitals, five municipal hospitals, 85 small Government hospitals, 84 subsidized hospitals, three sanatoria for tuberculous patients, and 219 private (mostly estate) hospitals.

The problem of native education is complicated as can be appreciated from the fact that the system must be adapted so



Coffee trees in bloom



Lake of Leles, near Garoet (Western Java)

The Government monopoly ensures adequate supplies of salt and many other amenities have been established for the natives' benefit.

Thus the natives of the Netherlands East Indies are taught to work and play, and their health, education, prosperity and general interests are furthered by colonial government at its best. Nevertheless, the Netherlands Indies Government is continually striving to effect further improvements—beneficent colonial administration can never stand still.

Oil Field in Formosa

Close on the heels of the discovery of rich gold deposits in the Tatsukiri range in Formosa, oil has been struck again in the southern part of the island.

Oil producing areas had been previously found only in the northern portions of Formosa.

At Chikutozaki in Tainan province where experimental drilling has been going on, a rich oil field is said to have been discovered.

as to satisfy the widely divergent needs and conditions of life of a heterogeneous population—spread over a vast area—whose civilization ranges from the most primitive to the European standard. Roughly speaking it is graded as follows: Municipal *dessa* schools, kindergartens, secondary schools, professional schools and universities. The last named are technical, law and medicine.

The complicated question of labor is of vital importance to the welfare of the natives, and an immense amount of work has been devoted to it. It is no exaggeration to state that nowhere in the world are the interests of the masses in this connection better catered for than in the Netherlands East Indies. Innumerable rules and regulations exist which are rigorously enforced under the supervision of lynx-eyed Labor Inspectors, and woe betide any employer, be he European or Asiatic, who transgresses them. Naturally the employers are also protected by law as in non-Asiatic countries.

A failure of the rice crop would be a calamity of the first magnitude. Vast irrigation programs have therefore been carried out by the Government and municipalities and by the natives themselves under the guidance of the Netherlands authorities. Native agriculture is encouraged and assisted in every possible way; in fact, the export of native produce forms a not unimportant factor in the economic structure of the Archipelago.

Native fisheries and industries such as textiles, batik work, hat making, tin utensils, etc., are similarly assisted. Savings banks encourage thrift, natives learn to play football and other European games in schools and estates, and they enjoy complete freedom in the observance of their innumerable feasts and ceremonies—religious and otherwise. This last named is quite a problem in itself, and more often than not involves the payment of wages in advance in order to provide funds for the merriment which inevitably ensues.

Netherlands Indies Offers Opportunities for American Trade

(Based on Recent Reports from American Trade Commissioner, *BASIL D. DAHL, Batavia*)

GREAT interest in the United States as a source of supply of many import commodities formerly obtained in important quantities from European countries now at war was the most significant development during 1939, from the viewpoint of the American exporter, in the Netherlands Indian market. Repercussions of the outbreak of hostilities in Europe were far-reaching even in this neutral territory, which in recent years has received from 35 to 45 per cent of its total import requirements from leading countries of Europe. Immediately following the outbreak of hostilities, overseas trade was temporarily disorganized. Deliveries from the United Kingdom were irregular, while imports from Germany were practically eliminated, and many importing wholesalers, as well as the Government, speeded up their efforts to make other connections abroad. Attempts to locate new sources of manufactured goods extended to Australia, South Africa and Japan, as well as the United States.

Early Precautionary Buying Outside Europe Accelerated by War

The tendency to buy from American rather than European manufacturers when possible was noticeable early in 1939. Effects of unsatisfactory business conditions during the latter part of 1938 were carried over well into the first half of the year, as world-market prices of leading Netherlands Indian exports continued depressed. In addition, uncertainty over international political developments aggravated the general concern regarding the immediate future, and throughout the first six months gradually increasing purchases from the United States were largely the result of precautionary planning.

Following the outbreak of hostilities, however, the tendency speedily took the form of definite orders for a variety of commodities. Demand became especially urgent for iron, steel, machinery and tools, electrical equipment and apparatus, chemicals, piece goods, yarns, foodstuffs, wrapping paper, and newsprint. Although retail trade became somewhat restricted in November, owing to rising prices and generally increased living costs, wholesale ordering continued active until the close of the year. Well before that time shortages were reported in a number of imported lines, notably building materials, certain varieties of which increased in price 50 per cent in the first two months of the war, dyestuffs, newsprint, European motion-picture films, and materials for making packing cases for rubber. Certain types of motor-cars formerly imported from Germany, and popular in the islands, could no longer be obtained. A shortage of iron manufactures was imminent, and new supplies were sought in Australia, the United States, and India.

Industrial Development Encouraged—Emergency Measures Enacted

Every encouragement is now given by the Government to the maintenance of imports, both from the mother country and from other sources. It is urged that the importation of necessary raw materials for the furtherance of industrial development—as well as imports of consumer goods—should be maintained as long as possible in order not to exhaust domestic stocks. Major industries are operated at full capacity and the Government has sponsored the establishment of new industries to meet all vital requirements of the country.

Most important of the Government-encouraged industrialization plans launched during 1939 was a scheme to establish a major chemical industry. Much attention also was given to the development of minor native enterprises, especially for the supply of textiles to the masses.

Other steps have been taken by the Government to ensure economic mobilization of the country's resources. Immediately following the outbreak of war, stocks of staple foodstuffs adequate for several months were accumulated at strategic centers of distribution, and a compulsory cultivation ordinance was issued to

stimulate the production of food crops. It was stated officially that the existing international restriction regulations governing trade in certain commodities would be continued, notwithstanding various quota increases.

Steps were at once taken to guard against profiteering, the Government announcing that nominal price increases would be allowed except on necessities of life, services, and rentals. Shipping companies, it was stated, necessarily had to raise rates, but legislation was passed giving the Government emergency powers over shipping and regulations relative to the reservation of freight accommodation and commandeering of vessels were drafted.

Import Trade Increases in Tonnage and Value—Gain Recorded in Trade with United States

By early November improvement had occurred in deliveries from England and France, and trade with the United States was aided by material increases in tonnage facilities on Java-United States shipping lines. Complete trade returns for the year are not available, but figures for the first 11 months indicate that despite the difficulties growing out of the war, import trade gained in both volume and value over the first 11 months of 1938. The accumulation of buffer stocks prior to the beginning of the war is believed to have contributed materially to the increase. For the 11 months imports amounted to 1,883,800 metric tons valued at 422,100,000 guilders, compared with 1,764,700 tons and a value of 417,200,000 guilders in the corresponding period in 1938 (The average value of the guilder in U.S. currency in 1939 was \$0.5334 and in 1938, \$0.5501).

Foreign-trade figures showing countries of origin are available for the first ten months only, but these reflect the trend toward replacement of European sources of supply with American, Australian, African and Asiatic. Imports from the United States were valued at 51,000,000 guilders, compared with 47,000,000 in the first ten months of 1938, while imports from the Netherlands declined from 84,000,000 to 79,000,000 guilders. Trade with Japan increased from 54,000,000 to 68,000,000 guilders. The gains made by Australia and South Africa were less conspicuous as this development was more pronounced in the last two months of the year. Australian imports amounted to 11,668,000 guilders, while African trade was valued at 5,109,000 guilders. The ten month figures show a decline of six per cent in imports from both Great Britain and Germany, with the former trade valued at 28,200,000 and the latter at 35,800,000 guilders.

Satisfactory Internal Conditions Basis for Favorable Outlook

Immediate potentialities of the Netherlands Indian market cannot be readily appraised. Generally speaking, however, internal conditions were quite satisfactory at the close of 1939. The country had not suffered a severe set-back because of the European conflict, and difficulties precipitated by the war were largely overcome. Export trade expanded in both volume and value as a result of the sharp increase in demand for Netherlands Indian produce following the outbreak of war, and average export prices were considerably better than in 1938. The position of the large European estates improved, while the economic condition of native growers strengthened materially in the last quarter because of heavier rubber shipments from the outer Provinces. Keen Japanese buying sustained the rubber market during much of 1939 and the sugar industry had a very good year, owing largely if not wholly to heavy demand from India. With the exception of tin, output of the mining industry was at appreciably higher levels than in 1938.

Active and steady demand with continued high prices for its leading exports, however, are considered essential to maintenance of the country's economic strength, particularly if prices of vital

(Continued on page 192)

The Port of Dairen

DAIREN, a sleepy fishing village when the British fleet first occupied it in 1858, is now a leading modern city of more than 500,000 people, situated at the southern extremity of the Liaotung Peninsula, which is popularly known as the Kwantung Leased Territory.

The port of Dairen, on the threshold of great Manchoukuo, forms the important portal to the Asiatic Continent. Occupying an important point of Europe-Asia through Traffic, the port has the well-earned reputation of being the only "Free Port" in the Far East. It goes without saying that a perfect up-to-date wharf accommodation is an indispensable manifestation of the significance of the port, both in fame and reality, and the vicissitudes of Dairen may be construed as the barometer of economic activity in Manchoukuo.

The remarkable development and improvement which the port has attained within a short space of time may easily be visualized from the statistical report of the exports and imports that are handled through this port.

The principal articles of export are soyabeans, the main staple product of Manchoukuo, bean cakes, bean oil, kaoliang, coal, iron, steel and iron products and raw materials such as tussah silk, while the most important imports are flour, cotton fabrics, gunny bags, iron and steel, machines and building materials.

Dairen, as already noted, was formerly a mere fishing village, named "Chingniwa" and its shores and long winding beaches, desolate and utterly neglected, were covered with reeds and bushes. When the allied troops of Britain and France advanced on North China in 1858, the British fleet occupied the bay and renamed it "Victoria Bay." Incidentally, this heralded the introduction of Western civilization to Dairen.

On March 27, 1898, Czarist Russia leased the port through the so-called Pavlov Treaty which was subsequently augmented by the Supplementary Treaty concluded on May 7 of the same year. By virtue of these treaties, Russia came to grip the complete leasehold over Ryojun, Dairen and adjoining regions, and immediately commenced to manage the leased area in conformity with what was then termed "modern city planning," after renaming it "Dalny."

Later, the Portsmouth Treaty, concluded and signed in September, 1905, conceded the rights of the lease to the Headquarters of the Japanese Army then operating in Manchuria against the Czarist Russian Army, whereupon the name "Dalny" was changed to read "Dairen." The termination of Russian foothold on the Liaotung Peninsula left the construction plan of the city and harbor, which had been initiated by Russian engineers, unrealized.

What are now the main wharf and the Central Circle were vast expanses of unleveled land, with hills and ponds. After considerable deliberation, the Japanese decided to follow the Russian plan in general, and the construction and reconstruction works were begun on a gigantic scale.

More recently, with the advent of the

government of the Kwantung Leased Territory, the Dairen Civil Administration Office was simultaneously brought into being. To-day, the expansion inclines to be westward having reached as far east as possible. Commencing at "Fushimi Heights"—the quiet school zone—the city expands westwardly through Tankatun, to the heart of the industrial district, Taizantun, and reaches as far as Hoshigaura, a celebrated summer resort.

"City of Acacias"

Ranking as one of the leading modern cities, Dairen is a fascinating "Cosmopolitan City" and is sometimes called the "City of Acacias," as rows of acacia trees enhance the appearance of the streets which are of tar and macadam, kept in clean and good condition. In early summer the air is filled with the fragrance of white acacia blossoms.

The city plan which is modeled after Paris combines the best features of the radiating, square and circular system of modern city construction. Especially, its streets radiating from the Central Circle in cobweb fashion symbolize the progressive freshness that is consistent with the colonial policy of present-day Japan. The urban tram lines extend over the entire city, reaching the suburban seaside resorts of Hoshigaura and Rokotan in less than half an hour.

Population as of July, 1938, according to the statistics report appearing in the 1939 edition of the Manchuria Year Book is quoted hereinunder:

POPULATION OF DAIREN

Nationality	No. of Households	Men	Women	Total
Japanese	34,930	85,264	76,859	162,123
Manchoukuoan	63,096	240,270	111,649	351,919
Others	540	923	778	1,701
Grand Total	98,566	326,457	326,457	515,743

The triangular area covering Naniwa-cho, Oyama-dori, and Isemachi is the fashionable shopping center of Dairen where visitors may find the exotic atmosphere, characteristic of a port-city,uring and tempting. Colorfully illuminated, the district is literally a sea of light at night.

Rensagai is the Japanese version of a modern shopping quarter. It was constructed at the huge cost of Y2,000,000 and covers the vast area adjacent to Dairen station.

Places of Interest

Ohiroba forms a lovely garden with picturesque bows dotted here and there amidst the green of lawn that adorns the circle. Surrounding the circle are such important buildings as: the Municipal Office, the Police Headquarters, the Department of



Dairen is modelled after Paris as the City's main streets radiate from the main central circle shown here

Communication, the Oriental Development Company, the British Consulate, the Yamato Hotel, the Yokohama Specie Bank, and the Bank of Chosen.

On the beautiful hill at the back of the Yamato Hotel, the Dairen Hospital, its imposing figure like a colossal castle, looms skyward, while in front of the hotel stands an impressive bronze statue of General Yoshimasa Oshima, the first Governor of the Kwantung Leased Territory at the center of the circle there is a starting stone of mile post.

Attesting the significance of the central circle as the axis of inter-city transportation are beautiful boulevards radiating from the circle; viz.—Yamagata-dori, which extends as far as the pier, the Oyama-dori, which serves as an indispensable link between the city and the "Russian Quarter," the Higashikoen-cho, which connects with Jijiko, Nishi-dori, which reaches the western extremity by way of Tokiwabashi, and several other boulevards.

The distinctive features of the city construction are: firstly, its radiating streets, and secondly, all the foot-bridges spanned to minimize the detour within the city, viz.:—Nihonbashi is a connecting link with the "Russian Section," Minatobashi, which extends over the railroad tracks, stands opposite the Dairen Exchange Building, while the modernistic Tokiwabashi at the intersection of tram lines occupies the important civic center with such facilities as are requisite to the daily life of citizens; namely, the Gas Company, the Manchuria Electric Company, the Rensagai Shopping Quarter, the Municipal Market, the Dairen Transportation Company and the Mitsukoshi Department Store, which are all concentrated around this bridge.

The magnificent Dairen Hospital is situated on a lovely hillside overlooking a vast expanse of ocean beyond the charmingly appointed city of Dairen.

Begun in 1907 and completed in 1911, the building represents a cost of Y6,000,000. It is six-storied high above Satsuma-dori, a street running parallel with the Central Circle, and 21 meters above the sea level. This grand and modern hospital is the pride of Dairen in fame and reality—it being uniquely equipped with the latest apparatus for both medical and surgical treatments, except those for mental diseases.

The branch hospital at Shakako and the Doju Hospital at Kaishungai Street are maintained to render medical and surgical treatments to Manchoukuoans exclusively.

The South Manchuria Railway Company

For the past thirty years, the South Manchuria Railway Company has been and still is inseparably affiliated with the in-

dustrial, commercial, cultural and general economic life and the development of the country.

Primarily a railway concern when first established in 1906, it is now a big happy family, embracing within its fold no less than 120,000 Japanese, Manchoukuoans and Chosenese. In addition to its extensive railway undertaking which constitutes its main business, the company operates, as subsidiary enterprises, coal mines, harbors and wharfs, warehouses, railway workshops and hotels. It also carries on a geological research institute, a chemical laboratory, and agricultural experiment stations.

In substance, the leading rôle in the thrilling drama of the "Harmonious Development of Manchoukuo" which the South Manchuria Railway Company has been and still is so masterfully performing, promises the world's audience still greater surprises.

With an aim for the advantageous utilization of products and natural resources peculiar to Manchuria through the aid of chemical and physical research, the Fushimidai Laboratory was originally established in 1907 by the Kwantung Government and three years later was transferred to the South Manchuria Railway Company.

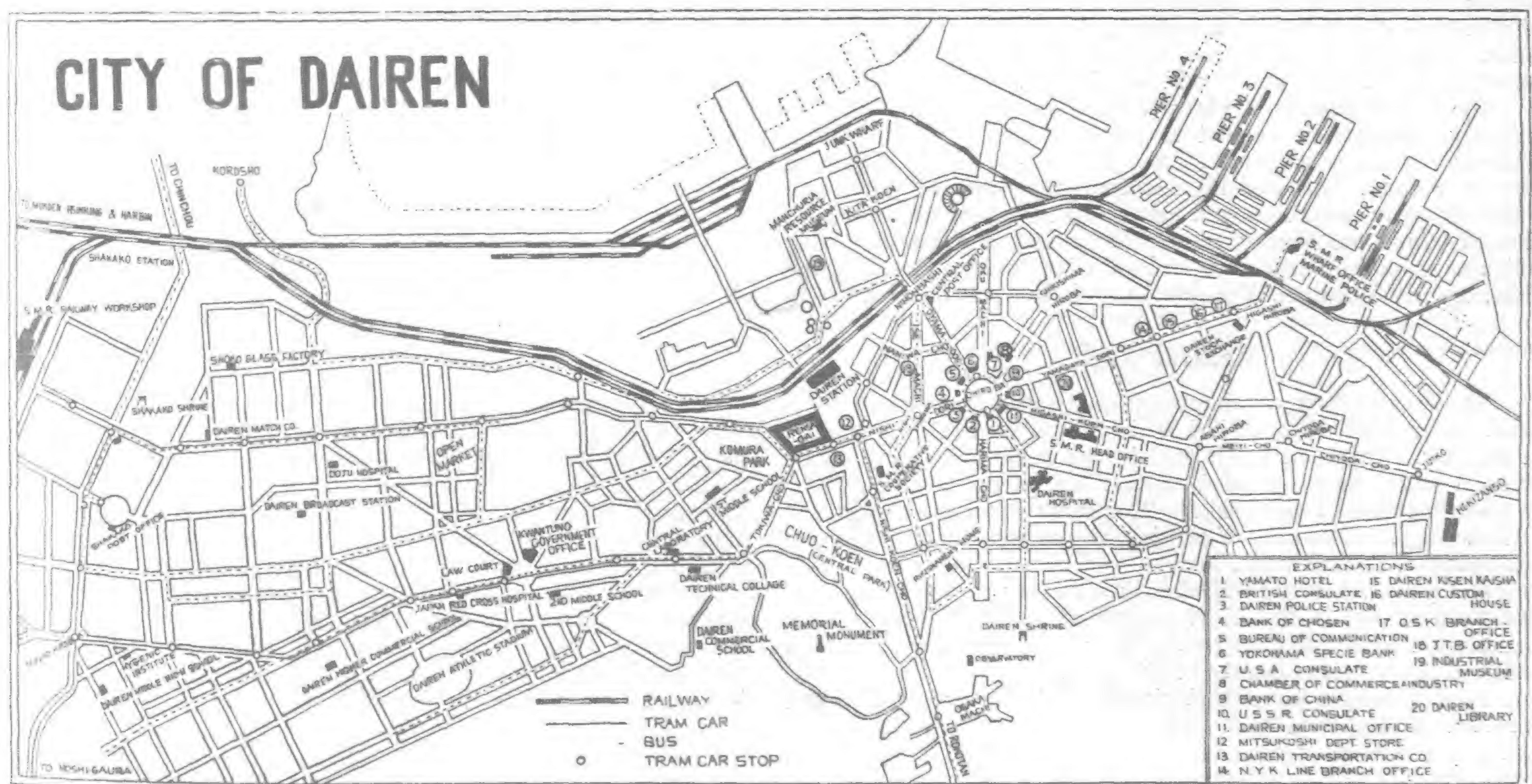
To-day, its far-flung activities include chemical research works which are carried on under four divisions, namely: organic chemistry, inorganic chemistry, fuel chemistry, and agricultural chemistry; and applied physics experiments under four classifications, namely: mechanical research, electrical research, rolling-stock research, and civil engineering research are carried on at Shakako Laboratory.

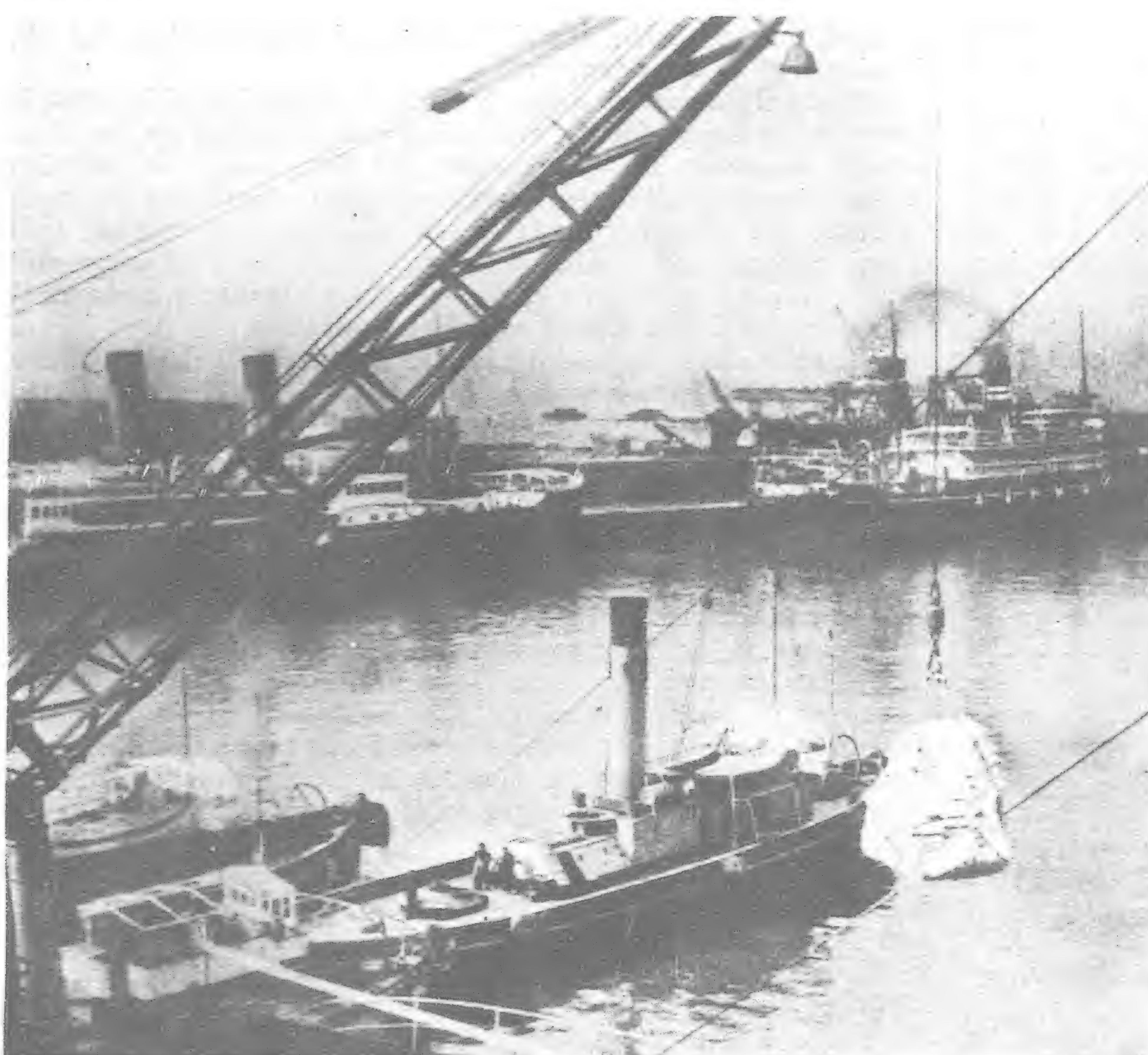
The most noteworthy of countless achievements was the founding of an earthenware and pottery factory, unknown in Manchuria, and the distillation of a high grade liquor and fine papers from kaoliang stalks. Thus it is no exaggeration to state that the Central Laboratory has been the pioneer factor of numerous industrial and commercial enterprises in Manchuria.

Notable Museum

The Manchuria Resources Museum and the Industrial Museum are located in the "Russian Section" and are open free to public every day, except the Japanese National Holidays, and the anniversary of the Foundation of the South Manchuria Railway Company (April 1).

The former is located at Kodama-cho, within the "Russian Section" and is the most complete of its kind in the world. A wide variety of specimens and facsimiles of both raw materials and finished articles as well as informational materials on mineral, agricultural, forestry and several other products are skillfully compiled with appropriate illustrations. Besides, all the exhibits





Dairen harbor, equipped with all the most modern port facilities and capable of accommodating 10,000,000 metric tons of cargo per year

are so vividly arranged together with countless numbers of photographs, charts, maps, diagrams and electrically operated illustrative materials as to enable visitors to obtain at a glance the concrete contour of the abundant resources in Manchuria and Mongolia.

The latter is situated at Yamashiro-cho, under the direct management of the Manchuria Technical Associations. The Museum is divided into three sections, namely, Engineering, Manchuria and Mongols, and Traffic.

Located on the second floor of the Manchuria Resources Museum, the Geological Institute engages in the systematic geological investigation of the mineral resources in Manchuria. Among its noteworthy achievements may be named the discovery of extensive iron deposits in Anshan, and the discovery of coal fields, and more recently, the topographical survey of natural resources in "Tungpientao" and its vicinity.

The Dairen Library, the largest of its kind in the Far East and uniquely arranged, is located in front of the South Manchuria Railway Company's head office. The so-called "Circulating Library System," initiated by this library, permits visitors a free entrance to any one of its seven component libraries within the city. Housed within the library are 220,000 volumes of books, among which are a collection of rare and valuable books concerning the olden era of Mongolian, Manchurian and Russian histories.

Central Park

The Central Park, which extends over a vast area from Tokiwabashi to the foot of beautiful Midoriyama, is the largest park in the city. Tradition has it that in the earlier days of Imperial Russian reign, tigers prowled around the park. Hence, it used to be called the "Tiger Park." The name was later changed to "West Park." Recently, following the expansion of Dairen, it was renamed Central Park.

The park is beautiful, filled with a variety of seasonal flowers and rows of acacia trees. A magnificent Memorial Monument standing on a hillside that commands a majestic view of the sea adds solemnity to the beauty of the park.

Besides being a favorite picnic ground in the spring, the park provided as it is with such facilities as baseball grounds, tennis courts, public archery grounds, a swimming pool and a riding club, is the center of sports throughout the year.

Adjacent to the Central Park, there is another small park called "Komura Park," which is managed by the South Manchuria Railway Company. It is located on a hill and from it an uninterrupted bird's eye view of the city and its environs may be obtained. The park has a zoo, a merry-go-round, a greenhouse and a library, thus making it a popular holiday resort as well as a favorite playground for children.

Hoshigaura (Star Beach)

Hoshigaura is on the seashore along the driveway to Ryojun, 8 km south-west of Dairen, and can be reached either by tram or by motor car. The place has many distinctive attractions and enjoys the reputation of being a matchless summer resort in the Far East. Figuratively speaking, Hoshigaura resembles the Inland Sea of Japan. Literally it may be referred to as the grace of "Feminine Beauty" while Rokotan, i.e., "Rock Garden at Sea," where hundreds of odd-looking rocks stand side by side along the seashore, may be described as "Rustic Beauty."

This beautiful park is bounded by the fashionable Hoshigaura Golf Links laid out on a hill near the foot of gorgeous "Mt. Fujii of Dairen," and the beautiful shore line of the loveliest white sand bordering the sea which is dotted here and there with picturesque islets. From the hill on which a bronze statue of the late Count Goto, the first president of the South Manchuria Railway Company stands, the park projects into the sea, forming a "Kasumigaoka" promontory. A fashionable resort hotel, a branch of

Dairen Yamato Hotel and cozy villas for renting are located facing the "Akebono" beach to the east of this hill, while "Tasogarenohama" meaning "Dusk Beach" to the west of the hill is the site of charmingly appointed Japanese restaurants. This is a place for restful, carefree loitering with bathing, pleasant sightseeing, besides being a place for sportsmen with sea fishing added to the usual sports of golf, tennis and swimming.

Rokotan is situated at the terminus of the tram-car line that runs southward from Tokiwabashi. The place was christened "Roko" meaning "fierce old tiger" because of the close resemblance of a huge rock to the figure of a "tiger howling at the great open." The place is well known as a popular holiday resort noted for the scenic beauty of curious rocks, as the choicest angling spot, and the cleanest bathing beach in summer.

Fukasho lies at a distance of 3 km from Togendai tram-car stop *en route* to Rokotan and is renowned for the limpidity of its water as an ideal bathing beach. A fare of 10 sen will carry one to the heart of Fukasho beach from Togendai.

Known as the "Scenic Trio" around the Kwantung Leased Territory, Hoshigaura, Rokotan and Fukasho are the most beautiful beaches to be found in the vicinity of the metropolis. No one ever goes to these beaches without returning full of praise of their cleanliness, extraordinary landscaping, excellent facilities and perfect sand.

Institutions and Local Color

Among social institutions that are most representative of local color, the Hekizanso Chinese Longshoremen's Home, managed by the Fukusho Labour Supply Company at the eastern extremity of the city, the Ricshamen's Home at Yawata-cho, and the Droshevsky Drivers' Home at the foot of Hakuun Hill are prominent. Although the number of coolies quartered in Hekizanso varies considerably according to the season, during the busy season from December to April they total some 16,000, while during the dull season from May to November the Home has 11,000. The majority of the coolies come from Shantung Province, China. About 90 per cent of the total number of coolies are engaged exclusively in the stevedoring on Dairen Wharf. The ages of the coolies range from 20 to 50, the average being 31 years of age.

As an institution, Hekizanso represents an investment of Y1,800,000 and occupies a vast area comprising 184 houses, not

including the Commodity Distributing House, Medical Ward and Recreation Quarter. Thus the company, in a sense, forms a labor organization, undertaking the promotion of the welfare of the coolies, and in providing various accommodations in connection with the assurance of their living and the improvement of their conditions, really making it a "paradise" for them. The Ricshamen's Home is also conducted on a joint stock company basis.

Junk Wharf, popularly called "Russian Town Wharf," possesses a local charm peculiarly different from anything one has ever seen. The unending charms of the Junk Wharf are the amazing diversity,—contrasts that assure charm. Thus, a quaint junk hoisting a red flag on its masts vies with the modern freighters, the cargoes are manhandled by coolies in the shadow of modern machinery, and the humorous chanting of Chinese crews flowing over the water amidst the din of the surroundings, affords the visitor an alluring color of the wharf.

It may also be interesting for a visitor to enjoy the Manchoukuo "flavor" in baths, theaters, and restaurants around Okumachi. For this purpose, no better place than Shokoshi which is, in a sense, "an epitome of Manchoukuo's social phase" may be recommended.

The most curious and interesting sight in and around Shokoshi is an open market generally known as the "Thieves' Bazaar." The bazaar is so called because of the fact that stolen articles are frequently found there. Here one may witness a peculiar phenomenon of bartering which is hardly to be seen in any civilized country. It is not only the market of daily necessities for Manchoukuo people, but also a popular amusement center with theaters, gay houses, variety halls, shows, conjurers and many others, for the lower class of people.

The Kwantung Leased Territory is situated at the tip of the Liaotung peninsula, facing the Yellow Sea on the east and bordering the Gulf of Liaotung on the west. It covers an area, including some 40 adjoining islands, south of the line which extends from the Choyoji in the northern vicinity of Pulantien to the vicinity of the Hekiryu River to the east of Hishikwa, forming a total of 3,462 sq. km.

Dairen is situated at a point 38°56' N. Long. and 121°36' E. Lat., and is practically surrounded by sea on three sides; viz. on the east it commands a distant view of Chosen over the sea; on the west it faces the Gulf of Liaotung; and on the south it faces the Shantung Province beyond the Yellow Sea.

Being surrounded by sea and partially connected with the Asiatic Continent, the climate of the Kwantung Leased Territory is mostly governed by oceanic climate, though, in some degree, it is influenced by continental climate. Climatic phenomena peculiar to this district are a great discrepancy between the heat and cold, a small amount of rainfall, and a desiccation of the air.

During the severest winter from November to February, the temperature falls as low as 10°C below zero, and in midsummer, from May to August, its highest reading reaches 32°C. But these days of severe cold and intense heat are very rare throughout the year. Especially in winter, the coldness is made endurable due to a peculiar sequence in cycles of cold and warm weather. The variation of climate during spring and autumn is rather irregular, warm and cold days arriving alternately, and as a result, the rainy season is always of short duration.



Rensagai, a main shopping center of Dairen

From the middle of April to the end of May is the best season to travel. Though the rainy season sets in the early part of July and continues until August, scarcely a need is seen for the use of an umbrella as the frequency of rainfall is considerably low. September and October are an ideal season for "Hiking." Contrary to a general conception of "Cold Manchoukuo," the temperature is greatly moderated because of warm and cold days arriving alternately. In reality, the winter is the best time to see developing Manchoukuo at the height of its activity.

Currency

Nipponese currency is in circulation, and most of the notes are issued by the Bank of Chosen. The city of Dairen and its vicinity, with particular reference to Rokotan and Hoshigaura coast lines are included in fortified zone. All tourists are cordially requested to govern themselves with the regulation established by the authorities, which incidentally, prohibit photographing, sketching, and trespassing of such areas.

MANCHOUKUO AUTO INDUSTRY BOOMS

The increasing difficulty of securing motor-cars, trucks and spare parts from abroad may be a blessing in disguise for the Manchoukuo automobile industry, according to the *Aschi*, for it will give the needed stimulus to bring the country's industrialization plans from the stage of blue-prints and experiments to that of economic reality.

The progress will be the easier as a large organization has already been set up for the manufacture of automobiles. This had few results to show to date, however, as lack of materials prevented large-scale activity.

Negotiations are said to be under way between officials of Japan and Manchoukuo on plans to increase automobile production. The main need is to have more of the available raw materials assigned to the automobile industry of Manchoukuo. The principle on which these talks are based is regional self-sufficiency. That is, automobiles to be used in Manchoukuo should be made there while automobiles for use in Japan should be produced in that country. Manchoukuo, it is held, should be dependent on auto and spare parts imports from either non-yen-block or yen-block countries.

Moreover, authoritative quarters hope to launch this industry without foreign capital.

Philippine Lumber

(American Chamber of Commerce Journal)

THE Philippines are 60 per cent covered with regal hardwood forests of commercial value. These forests are by long odds the Islands' primary asset. The lumber industry, therefore, logging away mature timber and making room for younger growth, is of primary importance to the Philippines public and the Commonwealth government not only because of the labor and capital employed and revenue produced, but secondarily as an agency in modern forestry administration. It is because of the forests that the Philippines have become the 5th, gold-producing country in the world; their gold surpasses Alaska's and stands second only to California's among the States—because of their forests.

Had these protective forests been taken from the mountains, erosion during floods would long ago have taken away the gold. Nor can a mine exist under active operation without constant application to neighboring forests for timbers to make the diggings safe from caving. Also, long after the gold is all removed and marketed, the forests will remain in the mountains, yielding their annual cut of superfluous trees.

As for the fields of the farmer, the pastures of the drover, without the forests they would be nude deserts. The great habitability of the archipelago is due directly to its forests, and it should be taught to all children that both good forestry and good lumbering are of the first public concern.

Lumbering is in a bad way. Capital is jeopardized, labor at risk of being laid idle to the number of thousands of men of skilled and semi-skilled ability, because basic facts about the situation have not been understood. It may be a general supposition that lumbering, employing large units of capital and large forces of men, is prosperous, or comparatively so. The opposite is true. The mills operate on the most precarious of margins. Some have seriously impaired capital. Some have gone to the banks, others face insolvency. This all refers to the largest and best lumber plants that cut a major portion of the lumber used in the Islands and practically all of that sold overseas.

It is beyond reason for the public to remain indifferent to such a situation, since it involves the actual welfare of the forests as well as payrolls among the largest in the Islands. It is of vital public interest that the industry operate gainfully.

Primeval forests cover 17,686,000 hectares of the land area of the Islands and contain some 11,000 species of plant life including among woods, some 300 fibers. Resins among the most valuable in the world are important by-products of many of the trees.

Publicly owned and administered, the forests and their value are assured perpetuity. In contrast with arable soil sapped by cropping and with mining, the forests are not a diminishing natural resource.

In addition to the nearly 18 million hectares in the Islands' land area covered by trees, the forests embrace 1.3 million hectares of natural grazing lands (This raises their area to

more than 3/5 of the Islands' total land area. You may compare it with the cropped area, 4½ million hectares).

During the past 14 years the average annual cut of lumber (and logs for export) has been 1,553,840 cubic meters, 99 per cent of it from the public forests under concessions and timber licenses. About 80 per cent of this was sold in the Islands, some 20 per cent of the finest selected stock was sold overseas—more than half of it in the United States where duties will obtain after 1946—in actively competitive markets where it was costly to procure demand for Philippine lumber and where most of the expense of this was borne by the mills and only a minor portion by the Philippine government.

Mills get 1,000 board feet of lumber from an average of a little more than six cubic meters of log as determined by the official scaling of the government, but 1,000 board feet of export lumber runs to as many as 18 cubic meters of log, much of what is unfit for exportation being altogether suitable for domestic use.

Difficulties in the export field tend to increase rather than to diminish, and export markets are affected by factors often not felt in the Islands. The domestic market may be active and the contemporary export market dull or but slightly active, or *vice versa*. There are also sharp variations of demand in the various export markets, all depending essentially on localized circumstances; so the export market as a whole may be described as variable and capricious, with practically nothing in common with the domestic market.

Yet it is this export market, taking hardly more than 20 per cent of the mills' total cut, that is vital to the mills, to the industry therefore, and to the Commonwealth, as nearly the sole source of a clear profit. *In the domestic field to-day, it is safe to say that not less than 80 per cent of the lumber sold has resulted in net loss on the mills' cost of production.* At the same time, the export field is limited and discouraging. In the peak year 1937, lumber exported comprised 593,629 cubic meters; in 1938, generally prosperous in the Islands but by no means so universally, lumber exported from the Islands fell to 378,693 cubic meters and that is approximately what will turn up for last year, 1939.

There are 149 sawmills in the Islands and ten machine-logging projects. Three mills cut 70,000 to 125,000 board feet daily under full capacity, six others can cut 40,000 to

60,000 board feet daily, and all the others, numbering 140, from 1,000 board feet daily to somewhat higher quantities. Nine mills are therefore at the head of the industry, yielding perhaps 80 per cent of the total cut. Their investments comprise the bulk of the capital in the industry, on their welfare depend most workmen hired in the industry, and they, with their clean villages, schools, doctors, nurses, and hospitals are the beacon lights in the remote communities where they are of course located—adjacent to ocean wharves they have built themselves and to their timber concessions that yield the logs.



A Philippine lumber yard at Zamboanga

Labor employed by a large lumber mill compares in payroll and number of men with that employed by one of the largest Philippines mines. From 2,000 men at least, it rises above 4,000. A large mill has a seat: offices and supplementary buildings and facilities, and a village of personnel. Thus with the progress of the cutting over the concession the labor force rises together with other charges. The railroad is extended, bridges added, more trains used, and more train crews, engines, cars, supplies and equipment. And so, obviously, the older the project, the more the public stake in it. This very stake, this growing stake in the larger Philippine lumber investments it is, that the existing situation dangerously jeopardizes. Philippine lumber has P.30,366,500 invested in it, 42 per cent American capital, 30 per cent Philippine, 10 per cent Chinese, 5 per cent British, 4 per cent Japanese, the remainder varied.

The Commonwealth spends about P.750,000 a year on forestry administration, collecting more than twice as much in forestry charges: 46.3 per cent from Americans, 22 per cent from Filipinos, 9 per cent from Chinese, 11 per cent from Britishers, 3 per cent from Japanese.

The Philippine lumber industry and its future holds a peculiar interest for American manufacturers because 95 per cent or more of its equipment and supplies come from the United States. This statement relates particularly to the larger lumber mills that find overseas markets for a select annual surplus of Philippine lumber production. It is the welfare of these mills and their extensive investments of capital and skilled experience that invites the active interest of the whole Philippine people and that, at least, of industrial America. A typical inventory of spare parts and supplies at such a mill sums 2,000 to 3,000 separate items and a value of P.250,000 to P.300,000.

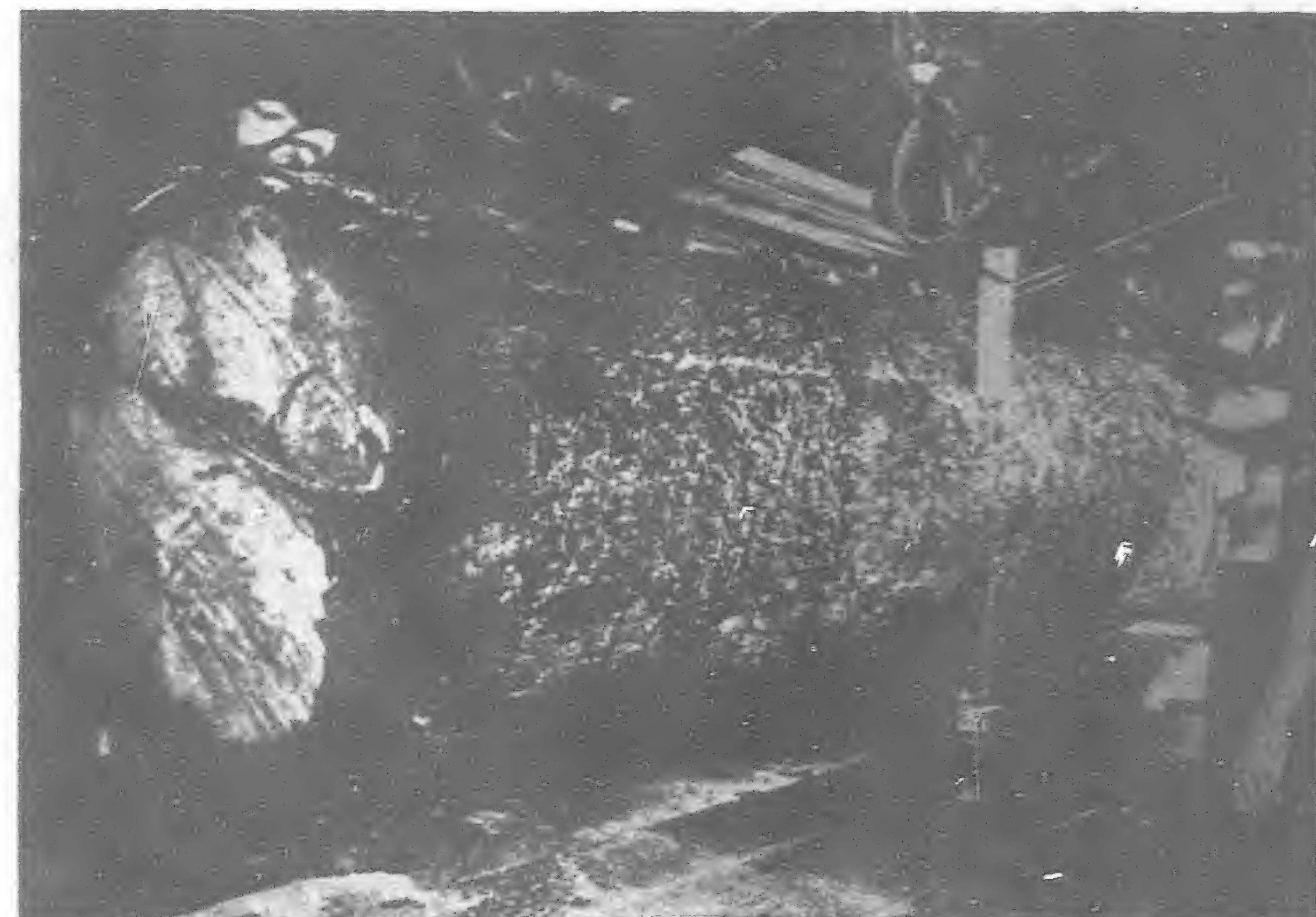
Steel rails for one mile of track tapping the concession of such a plant cost P.10,000. A mile of track ready for use, including the rails, averages a cost of not less than P.25,000 and where the terrain is difficult and bridges must go in the cost mounts to P.40,000 or even P.60,000 per mile. It can be seen that the bulk of this outlay is for labor: making the railbed, cutting crossties and placing them, bridge-building, rail-laying. The Philippines have a material interest in such large-scale employment of labor in the isolated places where the mills are, where the workmen often have homesteads and open and develop them with savings from their wages.

The inventory of equipment and supplies mentioned just now is a yearly outlay. At all the large mills together it runs to two and three million pesos annually. Philippine lumber is one of the very best Philippine customers of the American steel and steel-products industries. Even a flatcar, for logs, costs P.4,000 though assembled and built at the mill. A locomotive, geared and built for the trade, costs P.40,000. A tractor unit (comprising one tractor, one double-drum winch, and one cruiser, or logging arch) costs P.30,000. One large mill has five such units, a single outlay of P.150,000, and probably the other large mills all have as many. The same mill has 15 trucks with trailers. The other mills have such equipment also, all are good customers for trucks, fuel, tires and general trucking equipment and supplies.

We have said that the payroll at such a mill embraces 2,000 to 4,000 men. Many of these men are skilled, and draw more than base pay. While the interest of America is very material, that of the Philippines, in the payroll and in local charges such as inter-island freights, is considerably more and even more vital.

One of our illustrations shows a large group of employes at one of the large lumber mills, a crowded picture indeed but by no means comprehensive of the whole payroll. Glance at it, it cannot fail to impress you with the importance of giving such an industry favorable operating conditions. Hospitals at such mills, having surgeons and nurses, are a boon to the whole country-side. The mill village is an oasis in the surrounding wilderness. It is well planned, well kept, with sanitation, playgrounds, schools, etc., and thoroughly lighted, free, from the mill's electric plant.

Churches are also provided at these villages, a church for every sect, a mosque for Mohammedans in Mindanao. More than an



Squaring a log by band saw. These huge trunks, matured in the forests, are cut to make room for younger trees

industrial plant, the large Philippine lumber mill capable of cutting 80 to 130 thousand board feet a day and grading, sorting, seasoning and dry-kilning it for markets at home and abroad, has such social attributes as raise it to the quasi-status of a modest adjunct of the government. It teaches trades and crafts, and so facilitates homesteading that in Mindanao the influence of the large mills in this direction compares with all the efforts of the general government; yet the mills there or elsewhere lay out no money on the homesteader other than his wages or those perhaps of his son.

Roads built by the mills for timbering purposes frequently remain in use as rural thoroughfares when the logging ends. In the area of the timber lease or concession, where the land is to be turned to husbandry the mills may be asked to cut it clean. Trunks not commercially profitable thus go through the mills; a vast clearing is done at their expense, and fire and a little use of the axe makes the settler's fields ready for the mattock and the plow, while slabs and other offal at the mills provide him cottage materials at almost no cost. Meantime, always for their own sake and efficient administration of their responsibility to shareholders, the mills will have established widespread malarial control and imbued the whole vicinity with a due regard for modern sanitation—the settler attacks the virgin glebe of a healthful community.

It is such large plants, not ten in number, that manufacture 80 per cent of all lumber in the Islands and find overseas markets, to be carefully fostered, for the choice surplus of the total cut that cannot be sold at home. This revenue is the main financial prop of the industry.

Naturally, it is these same mills that pay the bulk of the taxes laid on the lumber industry, and the stumpage or forestry charges.

The small mills have few of the advantages to the country that pertain to the large ones. They do not dry-kiln for export. They cannot assemble for export large shipments of uniform quality of a guaranteed humidity minimum. They retain no surgeons and nurses, build no schools and churches; they provide no lights and villages of clean cottages situated in pleasant well kept grounds with watchmen to enforce security. While the small mill finds its place in the industry, obviously its function lies in the domestic field and the business of exportation involves a capital and close-knit business organization quite beyond its modest capacity.

Even the ample and constant supply of lumber to Philippine cities devolves primarily on the large mills, who look for their net profits from their sales abroad and hardly anticipate complete recovery of costs from their domestic patronage. In each overseas market these large responsible mills have established demand for their various standard guaranteed grades of lumber. This has been done at enormous cost of money as well as technical and business experience. Buyers rely on the mills coming up their marks, and so it is that Philippine lumber has won its place overseas. Should

the large mills that do this be crippled, Philippine lumber exports would at once feel the hurt.

In view of the Islands' separation from America (where 50 per cent of Philippine lumber sold overseas is now bought), the fact just mentioned has tremendous significance. For it will surely be the desire of the Islands not only to found such new industries as may be profitable, but to conserve industries already in operation as private enterprises, and overseas markets already established. For this brings employment to the country and revenue to the state.

We alluded to the small average dividends earned by capital staked in the real lumber industry of the Islands comprising the large mills. This fact is crucial.

For the seven years from 1931 to 1937 inclusive, the six largest Philippine lumber mills with P.15,000,000 invested capital paid in dividends only a total of P.1,280,000. This was an average of little more than one per cent annually. But two of the mills could pay no dividends at all, though 1937 was the best in a decade. Any factor, new or old, seriously jeopardizing the mills' diminutive margin of gain would be more than inadvisable. The cold truth is that the situation in which the mills find themselves requires careful reappraisal by all concerned, to the end that the industry find a basis on which it may survive and gratify its anxious investors.

Without any intent other than to be frankly helpful, it may be said that in no other industry is the country's ability to examine and alleviate an acute fiscal situation more on practical trial.

On the other hand, there is hope.

Forests cover 2/3 of the Philippines. Lumber of the finest qualities *for every purpose* is a natural Philippine product that should survive perennially. Not a foot of commercial timberland is sold. All is well administered by the state itself. No political contingency need close a single market overseas that Philippine lumber now reaches. A merely fair composition of the interests of the mills and the state is all that is needed, probably, to assure the industry's future indefinitely. Here, we feel, is something that the executive and legislative resourcefulness can take hold of and refound as at least one large industry in which employment will not flag nor public revenue appreciably abate.

One fundamental to bear in mind is that the longer a mill operates and the farther it advances into the timber stand allotted it, the higher tends to go its unit costs.

The offset is a greater daily output, entailing further investment of capital. Rail lines become more extensive, more roads and bridges absorb more earnings. More technicians in every department must be hired, and new departments added. Grading and tallying take more and better qualified men. Dry kilns absorb large earnings on new capital and engage new staffs of men. Wharves must be built and maintained, or fleets of barges for loading in sheltered roadsteads. Year by year, additional



Trucking logs over a Corduroy Road to a large mill

intricacies develop, until what began as a fairly simplified sawmill assumes every aspect of a vast and highly complicated business beginning with trees yet unfelled in the forests and ending in active sales offices in a dozen foreign markets.

It is only so that the Commonwealth may procure the cutting of its mature timber and assure itself the steady annual revenue the industry yields its treasury. Remembering that, remember too that the crux of the delicate problem is the export trade. Some half of this is with countries that sell little to the Islands, but lay cash on the line for their Philippine lumber. Lumber exports bring gold, straight through Manila's banks.

The reader who has followed our discussion of the current situation confronting all the large Philippine lumber mills making lumber for sale overseas will not have escaped the conviction that the situation more than merely threatens the mills' future. It threatens their very future existence. While they market some 80 per cent of their cut in the Islands, they make no money here and therefore look for their profit out of the 20 per cent of the cut they are able to sell overseas. Even under former conditions, a 10 hour labor day and the former forestry charges, we have seen that some mills made no net profit whatever, but actually lost from their operations, while others gained a little in some years and lost during others.

As a group, we have seen that the large mills representing the best lumbering achievements in the Islands were quite unable, even under former conditions affecting their operation, to average dividends of one per cent. About eight million dollars gold is summed up in the capital of these mills. Since the old conditions were thus consistently discouraging, how much more so the added costs of new conditions either raising the price at which their lumber must be sold abroad or, at old prices, narrowing the margin of net gain.

Here is a community problem, if ever one existed. It is the problem of continuing to sell in markets outside the Commonwealth, 20 per cent of the annual Philippine lumber cut. Only the large mills can do this, since installing the equipment for it is what makes a mill large: (1) a sufficient concession, (2) a capacious saw mill, (3) port facilities, (4) skilled selection and grading of the cut, (5) drying kilns costly to install and operate to reduce the shipments to a guaranteed maximum humidity, and (6) bespoken by all the rest, a permanent community at the millsite entailing rail lines and other means of transportation throughout the concession to fetch down the logs.



A group of several hundred hands employed in one Philippine lumber mill

We have seen therefore, in the previous papers, where typical mill communities in the Islands are described, that *costs per 1,000 board feet* mount inevitably in the large mills conditioned to market Philippine lumber abroad. We have seen that these mills in their remote communities are agencies of government in important respects: examples are their maintenance of schools and hospitals—teachers, surgeons, nurses—and their wharves or other loading facilities so widely at the free disposition of all who need them. Surely the position is unassailable that advises preservation for the Commonwealth's welfare, overseas lumber markets and the mills that create and supply them; and more generally, the position advising the preservation of overseas markets for all possible Philippine commodities, as well as the discovery, if this be found practicable, of other markets besides.

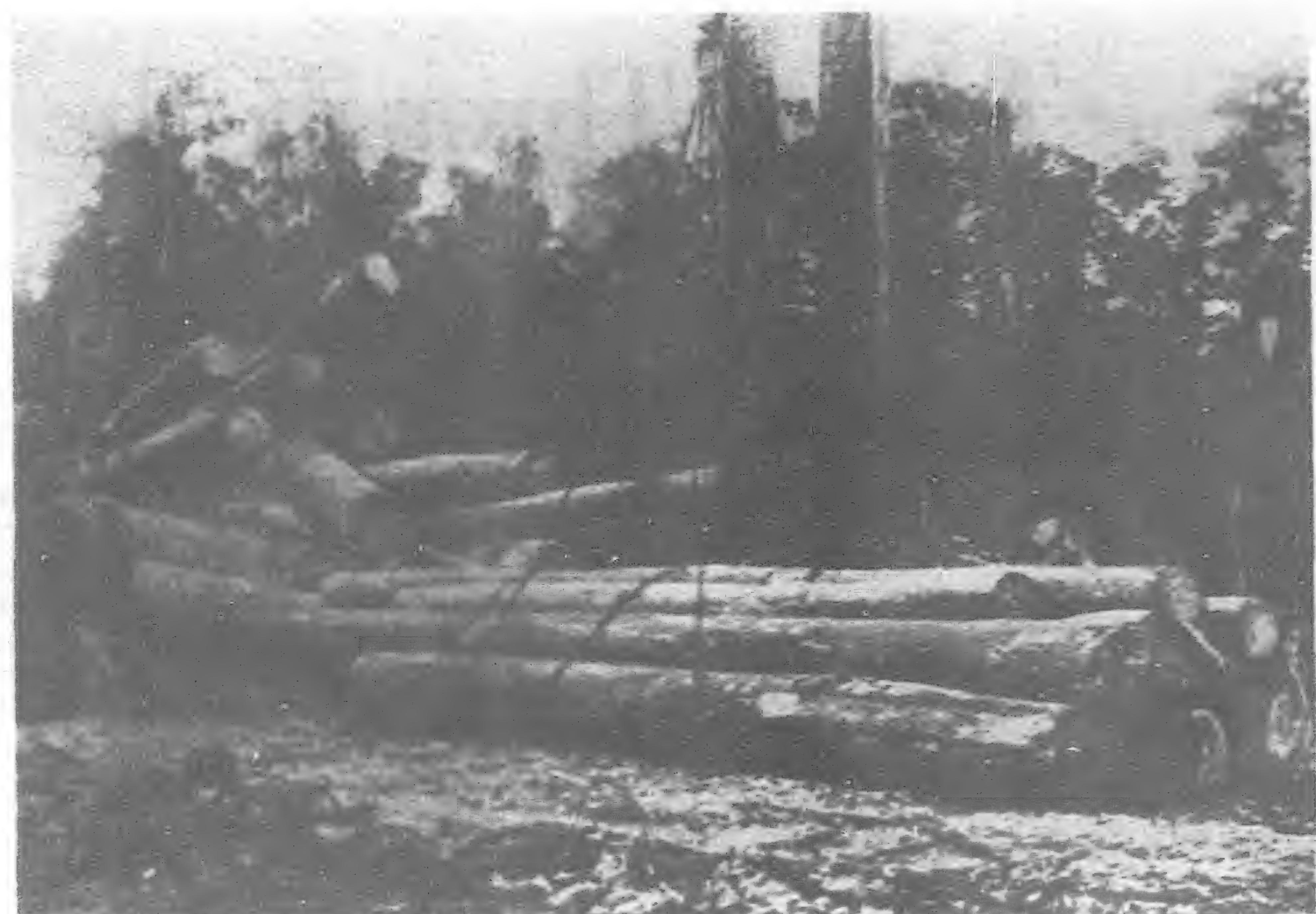
But one essential fact affecting lumber production has been withheld. It seems warrantable to publish it now, without of course the barb of criticism.

Investigation shows that the former forestry charges collected annual sums for the government *double the appropriation for the forestry bureau*. Collections have been running about P.1,500,000 a year, forestry bureau appropriations about P.750,000.

Charges have now been materially raised. No doubt this was done under the impression that additional costs were readily bearable. We now know that impression was erroneous. Clearly the Commonwealth faces a duty here that involves high moral obligation. It has imposed new charges, plainly for revenue. It has acted boldly in this. Quite as boldly it should act and rescind those charges when the industry, formally presenting its side of the argument, shows the charges to be altogether out of line with business on a basis of reasonable gains on ability and capital kept at risk.

How much would all Commonwealth business and industry be encouraged, if this one problem of *lumber marketing abroad* were immediately solved by friendly discussions and accords between the industry on the one hand and the government on the other.

In the problem of lumber marketing, especially the marketing of lumber outside the country, the forestry authorities deserve the industry's active help. A small commission would serve this purpose. An executive order could create that commission, or a paragraph of law could do it more formally and perhaps more permanently—as the Commonwealth might decide. Duties of such a forestry commission would be two. One, to analyse proposed and existing laws affecting lumber and advise relative to their actual and probable effects on the industry. The other, to



Piling logs for shipment to the mill

give timely information and counsel assisting in the administration of the forestry laws. All countries need such practical devices.

Before going further, we ought to remind the reader of precisely what is at stake.

What is at stake in this problem of lumber exports is the livelihood of 16,000 to 17,000 men, together with the future of the communities where, up to the pressing crisis of the present, they have been permanently employed and have had the right to look forward to years of further employment. *This means the welfare of 100,000 persons.* It involves payrolls summing 22,500 pesos a day, or some P.6,500,000 during a year of 300 working days. Has not such an industry, existing on the barest of net margins, or actually under loss, the right to be invited into council in order to point out exactly how sharp the harrow teeth are and where they scratch hardest?

We believe the Commonwealth will so decide. For the Commonwealth looks toward the future, must needs do so, in fact; forms of old procedures need have no permanent place in its plans; they are not infallible, nor sacrosanct, these aloofnesses deriving from royal times and military eras when there was no citizenship: *they are all amenable to practical modification and improvement.* The Commonwealth can have no happy career without their modification: it must partly live from industry, to which end, industry must survive.

The second suggestion is that lumber grading be left as it is.

The mills employ skilled graders. They grade for the several overseas markets they supply. *Their grading suits their buyers.* It is dependable, the mills' reliance in closing and enforcing contracts with purchasers. *It serves to sell lumber overseas*, the sole desideratum for mill and government alike. A grading act would serve only to face new employment into the industry, and so raise prices or shorten or wipe out profit.

Our third suggestion is that affecting lumber the labor week should be 48 hours, rather than the day of eight hours. Farther, *the time restriction might best apply in the mills and not in the woods.* Work in the woods is perhaps less arduous than work in canefields; under the law as it is, cane-cutting escapes the eight hour day, woodcutting does not. There is room for compromise in this hours question, but solutions should tend in favor of industry and not against it. The law has raised the big mills' production costs about P.8 per 1,000 board feet. This can be reduced without harm falling on anyone. Conference could readily

(Continued on page 189)



Cascos of Philippine hardwood lumber in the canal that traverses the Escolta from the Pasig

Tracks Through the Wilderness

The Story of The Caterpillar Tractor Co.

USUALLY, when the student of history traces back to the beginnings of a large manufacturing enterprise, he finds somewhere at or near those beginnings a love of adventure, a spirit of restlessness coupled with inventive genius and the qualities which go to make for industrial success. Caterpillar Tractor Co. is no exception, for its earliest beginnings involve the activities of two ambitious young men, Daniel Best and Charles Holt.

It was in the early 1860's that these two young men, each unknown to the other, left their homes for the West, Daniel Best at the age of 23 years, from Keokuk, Iowa, to join a wagon train bound for Oregon, and Charles Holt, 21 years old, of Concord, New Hampshire, who headed for Panama on a tramp steamer.

Young Holt had little difficulty. He walked across the Isthmus of Panama, boarded another tramp steamer and voyaged up the Pacific Coast to San Francisco. Best was less fortunate. He chose a wagon train bound for Oregon. In Idaho the train was almost annihilated by an Indian attack. Food and supplies were stolen by the redskins, but after much hardship, the youth finally arrived at Walla Walla, Washington.

While Holt was working in a San Francisco lumber yard and later teaching school and keeping books for a general store in Hydesville, California, bad luck continually dogged the footsteps of Daniel Best. Misfortune attended his efforts as a hunter, gold miner and as the operator of a sawmill. He was just beginning to make a little money when his mill burned. Undaunted, he moved to Puget Sound where he became head sawyer in a mill, but a careless worker bumped his arm, causing an accident which cost him all the fingers on his left hand. Resolute and of inventive turn, he rigged up a grain cleaner which proved to be quite a success. He moved to Oakland, California, and began to manufacture this much needed equipment. In 1883, Best bought a grain cleaning plant in San Diego and moved it to San Leandro, California, and from there it was only a step until the young manufacturer entered the combine field. He wanted a better source of power than horses and mules to haul his heavy machine, so he began to make steam traction engines.

To go back to Charles Holt—by 1867 he had saved up \$700, returned to San Francisco and invested the money in the hardwood lumber business. Then he became interested in the manufacture of wagons, for at that time there were no railroads in California and all land transportation was either by pack mule or wagon.

Young Holt made money, but soon found that the wagon wheels made at his father's hardwood mill in New Hampshire were not satisfactory because after being brought to California the wood shrank during the hot,

dry summers. So Charles Holt ordered the hardwood shipped west, where, after proper seasoning, it was made into wheels. The Stockton Wheel Co. established in that city of California in 1883, was the result, and the venture was an immediate success. Charles sent for his youngest brother, Benjamin Holt, to operate the new factory.

Subsequently the Holts gave considerable thought, due to the very large agricultural development in the valleys of California, to the development of a practical combine harvester, and in 1886 they placed upon the market the "Holt Bros. Improved Link Belt Combined Harvester." These machines were soon a commercial success. And in strange parallel, not 100 miles away, Daniel Best was producing his harvesting machine.

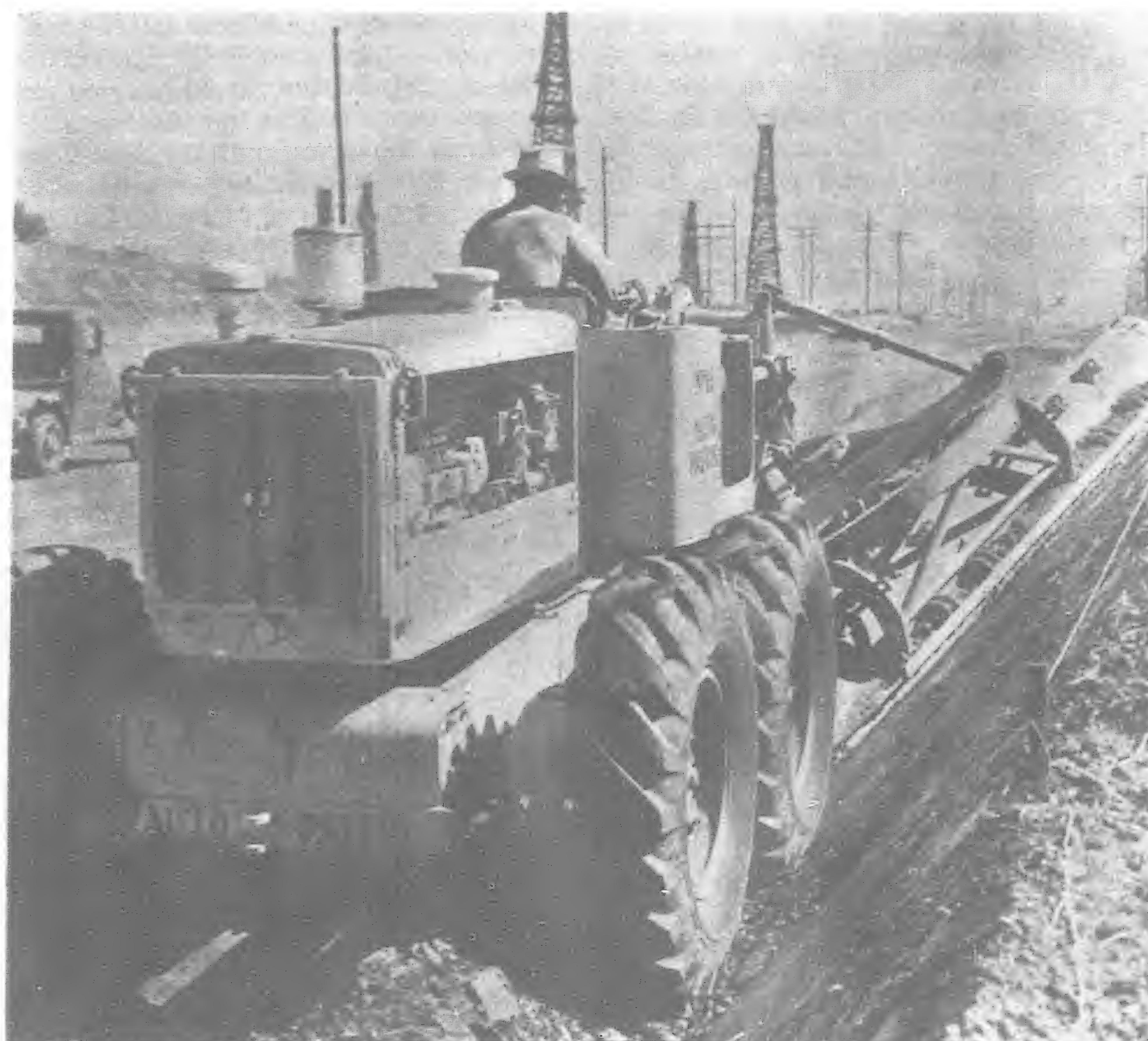
Considerable land reclamation work was being done in the late '80's on the delta soil of the Sacramento and San Joaquin River Valleys. The reclaimed land was very soft and farming was on an extremely large scale; in fact, to economically farm this land, combined harvesters were built in large units, taking cuts from 24 to 32 feet in width. These harvesters were too big to be handled successfully with horses, so the inventive genius of Benjamin Holt came to the fore, resulting in his patented steering clutches, a principle used to this very day in "Caterpillar" track-type tractors. This device was patented in 1891, at which time Holt Bros. entered the traction engine business.

What might be called the "large steam era" started with both the Holt and Best companies about 1889. These engines were very heavy, weighing about 40,000 pounds. To support this tremendous weight driving wheels were made wide and high. In some instances, no less than three 42 inch wheels were used on each side of the machine, which gave it a total width of 42 feet, 36 feet of which were wheels. But even then there was some slippage when working in the soft delta soil.

Benjamin Holt again put his inventive mind to work and conceived the idea of using an elongated or so-called "platform" wheel which was dubbed

"Caterpillar" and was applied to a steam traction engine. The first successful demonstration of this machine was in 1904, and it proved conclusively that here was the real solution of the problem. The name "Caterpillar" was registered as a trade-mark in the United States and throughout the world. Soon afterward, the steam power was replaced by a gasoline engine.

Early tests of the track-type tractor showed its superior traction and ability to stay on top of the ground. It was found that a 40 horse-power steam tractor mounted on tracks would out-perform a 60 horse-power wheel model, and haul more plows at greater depth in the bargain. Its popularity and fields of usefulness soon surpassed the fondest hopes of its producers. In



The modern caterpillar Diesel No. 12 at work on a grading job

1908, the first track-type tractor fleet made its appearance when sponsors of the Los Angeles Aqueduct ordered 37 of the machines to haul supplies to the site over the torrid Mojave Desert.

In 1910 C. L. Best, son of Daniel Best, formed the C. L. Best Tractor Co., and started to manufacture wheel gasoline tractors at Elmhurst, California. Three years later when this company entered the track-type tractor field, competition between the Best and Holt interests was revived in earnest. By this time, these machines had found wide acceptance in both industry and agriculture not only in the United States, but in foreign countries as well. A number of refinements and improvements had also been made in the machine. The tiller wheel had been removed making it even more compact and flexible. Road building, logging and general construction work now claimed its services.

With the dawn of the War in 1914, the British began their investigations of the possibilities of the track-type tractor for the hauling of materials. European land owners had been using the machines for several years before the outbreak of this catastrophe, and military men were not long in discovering that this was just the type of prime mover they needed. But the part the track-type tractors played in warfare was small when compared to its peace time rôle.* Many of the machines used during the War speedily reverted to their jobs of building roads, reconstruction and reclamation work at its close. However, the War did one thing—it popularized this type of machine—showed its possibilities as a builder rather than as a destroyer. This emphasis eventually resulted in greatly increased sales at home and abroad; particularly abroad in the development of colonial possessions.

In 1925 the Holt and Best organizations combined to form Caterpillar Tractor Co. Because of geographical advantages, manufacturing and administration came to be centered at Peoria, Illinois, in a former Holt branch factory. In 1928, "Caterpillar" acquired the Russell Grader Manufacturing Company facilities, a large pioneer maker of road machinery, and moved all factory equipment to Peoria. Later the manufacture of combines was discontinued and an entire factory which had been built for this purpose was



Here is the big caterpillar Diesel D8 tractor at work on the Trans-Canadian highway. The tractor rides on top of the heavy gumbo while the power-controlled No. 66 blade grader takes a deep bite into this tough material

given over to the manufacture of motor graders, elevating graders, blade graders and terracers.

The third great step in the progress of the track-type tractor was made in the fall of 1931. "Caterpillar" engineers had been working for several years to produce a Diesel engine suitable to power its tractors. More than a million dollars was wisely spent in research work.

The financial upheaval of 1930 had left its trail of industrial tragedy. Crop prices were low—too low for the production costs involved in preparing and harvesting the crop. At this juncture Caterpillar Tractor Co. introduced the Diesel-powered track-type tractor. Its reception was enthusiastic. In April, 1932, one of these machines, hitched to twelve 16-in. plows was put to work on a large Oregon ranch. Forty-six days after the tractor had set its plows into the hard, dry ground, the Diesel tractor completed its continuous run. Around and around the ranch, it had plowed

*Neither Holt-Best, or their successor, Caterpillar Tractor Co., built war tanks.



The two illustrations above show caterpillar equipment at work on another job in Canada. This is a highway job near St. Faustin, Quebec, and the pictures show a Diesel D8 and Athey 13-yard wagon under the 1½ yard shovel and at the dump



6,880 acres at the rate of 150 acres a day. In doing so, it had traveled 3,500 miles. But most amazing of all, it had plowed its enormous acreage at a fuel cost of only 5.73 cents per acre! News of this unprecedented economy of the Diesel tractor divulged in the Oregon test—the fact that the Diesel burned low-cost fuel and less of it, lopping 50 to 80 per cent from the fuel bill—got around fast. To-day, nine out of ten purchasers of "Caterpillar" track-type tractors choose the Diesel, and pay more money for it.

The Diesel's growing popularity literally forced Caterpillar Tractor Co. to enter the industrial engine business. To-day the company manufactures nine Diesel industrial engines ranging from 32 to 160 brake horse-power, as well as four Diesel marine engines, five Diesel Tractors, from 25 to 97 drawbar horse-power, and three Diesel-powered Motor Graders.

The Diesel engine designed by "Caterpillar's" Engineering Department is one of simplicity and precision. The company didn't want to depart from the conventional, four-cycle automotive type of engine, and for easy all weather starting, sans complicated wiring and batteries, they chose a small two cylinder gasline engine mounted on the Diesel unit. So satisfactorily has this starting method worked out, that the company has retained it since the production of its first Diesel.

Under the most rigid specifications and tolerances, Diesel fuel injection equipment for the engines is manufactured in the factory at San Leandro, California, and shipped, as complete units in carefully packed boxes, direct to the engine assembly line at the Peoria factory. In machining fuel injection equipment, craftsmen work to dimensions and check results, in terms of millionths of an inch. So precise is their work, that it is necessary for these men to employ microscopes.

The company has its own modern, well-ventilated foundry for the production of grey iron castings. Here begin the major parts that finally wind up the process of manufacture on the company's modern assembly lines.

The giant Caterpillar Tractor Co. plant at Peoria, Illinois, covers more than 150 acres and consists of three divisions: a tractor factory, a road machinery factory and a foundry. Here more than 9,000 factory workers are employed, and here also are the executive offices, including those of B. C. Heacock, the company's president.

Contributions of the track-type tractor to the world's economic and social progress are many. It has placed agricultural production on a new plane, both as to methods and costs. When France desired to develop its broad lands in Northern Africa, she chose the track-type tractor to break this vast acreage. In South America, rice lands are harvested by them. Through the use of these machines, Holland has pushed back the Zuider Zee, opening thousands of acres to much needed agriculture.

In road construction, the track-type tractor is literally pulling the world out of the mud and to-day, largely because of it, the touring motorist is able to visit distant cities comfortably and quickly, and at any time he wishes. It has also been the principal prime mover in the development of farm-to-market roads which have enabled the farmer to transport his crops economically, and made it possible for the farmer's children to attend a modern consolidated school. The snow problem has been decisively licked by the track-type tractor equipped with large rotary or V-type plows.

We like to be sentimental about trees—our great forest lands—and why shouldn't we be? Another contribution of the track-type tractor has been "selective logging." It wasn't



Heavy ditching work with caterpillar equipment in Nebraska State. The picture illustrates the unusually wide range of blade positions and the reversing blade feature

until after the beautiful forests of Minnesota and Wisconsin were ruthlessly hacked out of existence that our nation realized the need for preserving our valuable forest resources. The slaughter of the western woodlands was under way before the protest became loud enough to be heard. Then came the introduction of selective logging. The maneuverability and traction of the track-type tractor enabled timbermen to adopt this new method, that of selecting only the "ripe" trees from a stand, at a profit. Progressive timbermen now rotate the harvesting of tree acreage much as does the farmer his crops. Seedlings and young timber are left unharmed as he picks only the more mature from a given section. Logging completed on this tract, he moves on to the next, and by the time his company has completed its round of the timber property, that on the first tract is ready for the process to be repeated.

The track-type tractor has laid a network of pipe line, both oil and gas, throughout the United States and is now laying similar networks in South America and on the eastern hemisphere. The harnessing of rivers to make fertile and tenable millions of acres of land, to supply electric power, to eliminate floods and to supply metropolitan areas with an adequate, sanitary, wholesome water supply, has been one of man's oldest major contributions to society. In later years he has been most ambitious in this direction, his feats in dam construction awe inspiring. And the track-type tractor has helped him make his dreams come true.

Such gigantic projects as the Shasta, Boulder, Bonneville and Grand Coulee Dams, the All-American Canal, the Muskegum Valley Flood Control Project, the Staines Reservoir in London, the high levees of the Mississippi River, as well as the great Friant Dam and many others on which construction is now just beginning, owe much to track-type tractor power.

When agricultural leaders of the nation began to realize the full import of the ravages of wind and rain erosion in this country, they began an exhaustive investigation to determine some practical means of remedying it. Scientific terracing of land, which prevents swift run-offs, was found to be the answer, and again the track-type tractor, this time pulling a terracer, was called upon to take its place in the vast project of stopping the soil thief.

These tractors play their part in real life drama, too. Picture one of them at the head of a long train of sleighs boring deep into the winter blizzard of the far north. Laden with heavy mining machinery, struggling over frozen lakes marked only by sprigs of evergreens, these machines are taking a daring and outstanding rôle in



Here is the caterpillar Diesel D7 tractor and [Kay-Brunner hydraulic ripper making short work of a tough job in California. The material being "combed" is sandstone cap and heavy shale spliced with ridges of decomposed granite

the development of such distant resources as the rich radium and gold deposits recently found in the frozen north.

Then there is Matanuska Valley in Alaska where several hundred hardy souls of the United States are carving out a new living on Government grant land. A fleet of track-type tractors has been assigned to the job of land breaking, logging and a score of other tasks. Three years ago, shortly after the spring breakup, the wife of one pioneer became desperately ill with appendicitis. There seemed to be no way of getting her to the railroad and to a hospital until one of the residents thought of the track-type tractor. The woman was bundled into a logging sleigh which was hitched to the tractor and dragged through the deep mud for twenty miles to the railroad. The operation was performed in the nick of time.

The pioneers of trans-ocean airplane travel have depended a great deal on the track-type tractor. In developing bases on distant Midway and Wake Islands in the Pacific, Pan-American



At work in the Idaho woods showing a 61 h.p. Diesel caterpillar maneuvering through the timber "toting" nearly eight tons of mounted equipment

Airways purchased a number of these machines and their work has been of tremendous help in the preparation of runways, harbor landing fields, building sites—yes, even in the erection of windmills. Likewise, a large fleet of these machines has just completed a gigantic landing field in Newfoundland, eastern base for trans-Atlantic plane service. Similarly, they have had a hand in the construction of most of the major airports at home and abroad.

In several tropical lands, these tractors have been flown piecemeal over the tangled jungles far inland to be assembled there for the clearing of gold and oilfield sites. In other tropical lands they have replaced elephants.

But whether it's smashing its way through the teeming jungle, or taking its place with several score of its fellows in building Pennsylvania Turnpike, "Highway of To-morrow," makes little difference to the modern track-type tractor. It is one of the greatest pioneers of the day, fit and ready to clear thousands upon thousands of acres of tangled mesquite on the Texas border, or to carve out a road in the wilds of some distant land. Its popularity

is due solely to the fact that it fully answers a great need, and is the best and least costly solution to a wide range of present day problems. It is a pioneer and its pioneer builders would be proud indeed could they see to-day the world made possible by the great prime mover for whose beginnings they were responsible.

Philippine Lumber

(Continued from page 185)

iron out such barriers to just profit. The law specifically raises costs of operating logging trains over extended lines where it is impossible to send out a train of flatcars, get them loaded with logs, and back to the yard within the limit of eight hours.

This suffices for illustration. The whole question is one for frank discussion and practical solutions.

The fourth suggestion is the reminder that American taxes on imported hardwood apply to Philippine hardwoods commencing next year, when 5 per cent of the full duty applies. This rises year by year 5 per cent, to 25 per cent in the final Commonwealth year, and full rate thereafter unless mitigating legislation ensues. Here is a rising cost of selling Philippine lumber overseas that cannot be budged locally, but it may wisely be offset locally and the American market saved to the industry. That market takes about 50 per cent of all Philippine lumber exports. It is also a market susceptible of expansion *under favorable production conditions*.

Philippine lumber exports face two major handicaps. One is rising costs of production, the other is rising ocean freights. But freights are a transient factor, war makes them high and peace will make them low again. Presently they are high for all commodities and from all countries—the continuing factor here, that can never be got round, is merely the long haul. This needs no study, there is no remedy.

The problem limits itself to means to moderate costs, to the end that business may be done.

The fifth suggestion is that exported sawn lumber be exempted from the forestry, or stumpage, charges on a basis of six cubic meters per 1,000 board feet of lumber. The reason is, to enable the mills to continue in operation and hold overseas markets; and more, to expand sales and book additional business, that prosperity may return to the industry in lieu of continuous marginal gains or actual losses.

This measure would be a subsidy. But it would be nothing new. From subsidies the Philippines have derived a deal of benefit from certain industries, as from the sugar industry when its tax was made 1 per cent as against 1½ per cent for other industries, and as from the Manila Railroad when its tax is fixed at 1½ per cent in lieu of all other taxes while it remains chiefly owned by the people (Mails were an early subsidy in the modern Philippines. For semi-monthly mails from Europe to Hongkong with crossings to Manila, the old "P. & O." in Spanish times got \$250,000 Mex. a year, paid monthly immensely to the Islands' commercial and industrial benefit, though all the money went right off to London).

Basis of 1939 lumber exports, which were 44 million board feet, and the new stumpage rates, this proposal would benefit lumber exports in the sum of about P.330,000. The forestry administration, figures above, would still enjoy most liberal net income over its annual costs. But the P.330,000 would be some 2 per cent on the P.16,000,000 of capital invested in the large mills, a genuine boon to their enterprises and an assurance of their survival against competing lumbers coming on the world market from Straits Settlements, Indo-China, and Borneo as well as various and vast sources in the western hemisphere.

Here we leave the problem to the amicable discussion that should ensue between the industry and the Commonwealth. In no instance, we believe, have we drawn the long bow. No aspersions mar the paper, we are sure, though the brief for reviving the mills is clear-cut. No brief for the mills alone, the paper embraces the welfare of the 100,000 Philippine people affected. There could be no loss, but substantial gain, in foregoing one-third million in stumpage revenue to assure payrolls of 6½ million a year. For here are wages, all of course spent for consumable taxable goods. You have but to add annual mill equipment and supplies to offset, and more, *the one revenue that by no means may continue long, with merchants' taxes of the most permanent dependability*.

Development of Korea's Industrial Resources

(Tokyo Gazette)

INDUSTRY in Korea until the present decade, long had remained in a primitive stage, consisting chiefly of agriculture which was confined to cereal products. The Manchurian Incident marked a new era in the modernization of Korean industry. Since that incident, great strides have been made, particularly in iron manufacture. In order to stimulate this trend the Government-General in October, 1936, held a conference to make an exhaustive study of the industrial economy of Korea. This important meeting was attended by industrial experts and economists of Japan, Manchoukuo and Korea. In accordance with the fundamental policy for industrial development formulated at the conference, the Government-General adopted and put into operation various concrete measures. With the unexpected outbreak of the China Affair less than six months later, it became imperative to adapt the new program to the strengthening of the wartime economic structure binding Japan, Manchoukuo and Korea. As the military operations progressed, both Central and South China came within the sphere of Japan's economic activities, wherefore Korea, from its geographical position, became a natural supply base for the Japanese advance on the Continent. It thus became necessary to extend and improve the measures already in operation. Consequently, in September, 1938, the Korean authorities called another conference for the investigation of measures called for by the emergency, with a view to strengthening the wartime structure in the Peninsula. The conference altered nothing in the fundamental policy, but decided to accelerate the industries most vitally concerned and to promote closer economic relations between Korea and the regions under Japanese occupation in North and Central China.

From a geographical standpoint, Korea is situated ideally to serve as the advance base of operation in the execution of Japan's policy of Continental development. This position of Korea had been recognized during the Manchurian Incident, but came to be appreciated even more after the outbreak of the China Affair. The experiences gained through the Changkufeng Incident which ran its course in the summer of 1938, and the subsequent border disputes with the Soviet Union, added still greater significance to the new function of the Peninsula. In this sense Korea may be called the "supply base for Japan's advance on the Continent." The phrase is fitting and comprehensive. The geographical position of Korea is important in the following respects:

(1) Bordering on Manchoukuo and adjacent to China, Korea offers an excellent foothold for the development of the Continent.

(2) Touching the Soviet Union at the Eastern tip, with Manchoukuo forming a wedge between, Korea is in the position to act as "advance guard" in Japan's national defence, and serves as a base for the protection of Manchoukuo to which Japan is inseparably bound.

(3) As it extends down from the Asiatic Mainland, Korea has advantages for the prompt transport of troops and supplies in time of war.

(4) As Japan proper is separated from the Continent by the Sea of Japan and the Korean Straits, and in consideration of the present stage of development of submarines and aircraft, Korea may be regarded as a safe and independent supply base.

In short, the above points amply illustrate Korea's highly important rôle in national defence. In a broader sense, the phrase

"supply base for advance on the Continent" means an intermediate station for Japan's industrial and economic development of the Continent. In this connection, the human and material resources of Korea are of considerable importance.

Expansion of Productive Power

Owing to its unique position, as explained in the foregoing, Korea cannot be regarded separately and independently in the expansion of productive power, but as a component factor in the joint industrial program of Japan and Manchoukuo. It is recognized, moreover, that with its advantageous conditions for industrialization the Peninsula is capable of making substantial contributions to the execution of the program. Korean industry in the past, as stressed at the beginning of this article, was confined almost exclusively to the production of cereals. Under the stimulus provided by the Manchurian Incident, however, both agriculture and manufacturing industries flourish side by side. With the munitions enterprises in North Korea as the center, the industrial structure of the Peninsula is undergoing a remarkable change. With regard to the expansion of productive capacity, Korea has the following advantages for industrialization:

Less densely populated than Japan proper, Korea offers innumerable excellent sites for large manufacturing plants. Although the growing rage for enterprise has brought on "land fever," causing some difficulties in the acquisition of land, there still is plenty available for industry, and it is possible to establish factory areas on a large scale.

The supply of coal and electric power is abundant and comparatively inexpensive. The total power output will amount to 700,000 kilowatts, when generating stations now under development are completed. The hydro-electric stations on the Jangjin and Buzen rivers are larger than any in Japan

proper, both in respect of equipment and capacity. Not only are they supplying an abundant amount of electricity to industry in general, but they also have made possible the development of the electro-chemical industry. There is now under way a gigantic power-generation project on the Yalu River, which forms the natural boundary between Korea and Manchoukuo. It is expected to be completed before 1942.

Labor is more abundant and consequently cheaper than in Japan proper. Moreover, Korean workers are superior to those in China and Manchoukuo, because they are educated as Japanese subjects.

Korea is rich in important mineral resources, including gold, silver, coal, graphite, molybdenum, tungsten, magnesite and bauxite.

In Korea there are relatively few social and economic factors which may be regarded as unfavorable to industrial enterprises. It is admitted by all industrialists that the management of their undertakings in Korea is easier in this respect than in Japan proper.

In munitions manufacturing enterprises and other heavy and light industries, the subcontract system has not yet developed. Subcontracting in Korea at present is confined almost exclusively to specialized manual arts. Since Koreans have a natural aptitude for handicraft, and as the women also are skilled workers, the future of the system is promising.



The Railway Station at Keijo



Korean rice ready for export



Rice seedlings for transplanting

The favorable conditions outlined above have helped forward the development of heavy industries such as shipbuilding, cement manufacture and metal refining and light chemical industries such as coal liquefaction, extraction of fats and oils, and the production of sulphate of ammonia.

Industrial Development Plans

The advance of the manufacturing industry is essential to the thorough development and prosperity of Korea, both at present and in the future. Considering on the other hand the importance of agriculture and fishing in relation to Japan's food supply, and of livestock breeding for military purposes, it is obvious that this phase of the Peninsula's development must not be neglected. Viewed in this light, the dual policy of promoting both agricultural and manufacturing industries in Korea is of far-reaching significance. A rough survey of the plans for the development of Korean industry is given below.

(a) *Gold*.—As part of its important national policy, the Japanese Government in 1937 adopted a measure to increase the production of gold, so as to effect adjustment in the international balance of trade. To assist in the execution of this policy, the Korean authorities drafted a plan aimed at quadrupling the output of gold ore in four years. Whereas the total production for 1936 was 20 tons, valued at Y69,000,000, the program anticipates a total output of 75 tons, representing Y290,000,000 in 1942. As success of the plan is an important factor in the achievement of Japan's ultimate objective in the current emergency, the authorities and the people are co-operating closely to carry it through satisfactorily.

(b) *Iron and Coal*.—With the growth of the manufacturing industry, the demand for coal and iron will increase rapidly, as a

natural consequence. Heretofore, iron ore mined in Korea has been shipped to Japan proper in the raw state. In the future, however, the iron industry in the Peninsula will be made a thorough and systematic enterprise, combining all processes from mining to manufacturing. Plans now are being worked out to develop the Musan and Iwon mines along this line. As for coal, in view of the existing relation of supply and demand between Japan proper and Manchoukuo, there is a project afoot for making Korea self-supporting in this respect.

(c) *Petroleum Substitutes*.—For the purpose of rationalizing the demand for petroleum, measures are being taken to develop the manufacture of synthetic petroleum and absolute alcohol.

Munitions Industry

(a) *Aluminum and Magnesium*.—Korea abounds in resources needed for the production of light metals. The authorities therefore are planning the establishment of manufacturing facilities to ensure self-sufficiency in this important metal. A plan also is under consideration for increased production of magnesium, to meet the rapidly growing demand both in Japan and abroad.

(b) *Explosives*.—The demand for dynamite is showing a marked increase, owing to the rise of various enterprises, particularly mining, while the greater part of the requirements at present are supplied from Japan proper. So the Government-General is planning to increase the production of explosives in Korea.

(c) *Motor-cars, Aeroplanes, Goods Wagons, and Steamers*.—These industries are not yet well developed. From its position, both economic and military, however, Korea is inevitably in need of these industries to supply its own demands. Under the current emergency, there will be considerable difficulties in developing such industries, but they must be overcome by all means. At present



Picking mulberry leaves for silkworms



Weeding wheat and barley at a young women's training institute

the Japan Vehicle Company is operating a factory at Jinsen, while the Korean Heavy Industry Company recently has been established to undertake shipbuilding.

Agricultural Products

(a) *Rice*.—The importance of rice to Korea may be seen from the fact that every year between 8,000,000 and 10,000,000 *koku* (1 *koku*=4.9629 bushels) of rice is exported to Japan proper. Especially since the outbreak of hostilities in China, the Peninsula has grown in importance as a base for the supply of rice to the troops operating on the Continent. The Japanese Government, with a view to increasing the supply of staple food in the present emergency, launched a drive for the increase of rice production to the amount of 4,000,000 *koku* during the 1939-40 fiscal year. Keeping pace with this program, the Korean authorities decided on the appropriation of Y1,200,000 in the current fiscal year to expand rice production. The aim of the program is to increase the crop by 1,200,000 *koku* by rationalizing the method of cultivation.

(b) *Agricultural Products as Materials for Industry*.—The chief agricultural products, the increased production of which is now being encouraged by the authorities, are fibre materials such as cotton and flax, sweet potatoes, wheat and hops. With regard to cotton, the Government-General worked out in 1933 a ten year plan to extend the area under cultivation to 250,000 *cho* (1 *cho*=99.2 acres) and increase the yield of seed cotton to 250,000,000 *kin* (1 *kin*=0.6 kilograms). The subsequent changes in the international situation and other circumstances have made it necessary to augment the domestic supply, and the plan has been revised again and again, until the area sought by the program has been set up to 350,000 *cho* and the production to 490,000,000 *kin*. As for sweet potatoes, a five-year plan beginning with the current fiscal year has been adopted with the object of enlarging the crop area to 73,000 *cho*. With the future growth of production, they will become important materials for making alcohol, starch and spirits, aside from their primary food value.

Livestock

Korea has vast expanses of land suited for pasture and the people are experienced stock-raisers. Cattle, horses and pigs have grown in number in recent years, and in view of the important relation of Korea to Japan Proper and Manchoukuo, stock-raising has bright prospects for the future. The authorities are endeavoring to push development of the industry by improving livestock administration and encouraging research and scientific study of stock-breeding.

Fishing Industry

Fish, next to rice, forms the most important part of the Japanese diet, while marine products also are important in the manufacturing industry. Being a Peninsula with comparatively a long coastline, Korea is blessed with a great variety of fish in its adjacent waters. Sardine fishing in northern Korea is unrivalled by any other except the pelagic fishing in the northern seas. It is deemed of urgent necessity to develop these marine resources, wherefore the Government-General is enforcing various protective and promotional measures for that purpose.

France in the Far East

(Continued from page 172)

of these is the Red river. After its junction with its tributaries the Clear river and the Black river, the volume of its waters is double that of the greatest river of France, the Rhone, after its junction with the Durance. Another important waterway is the Mekong with its defluents the Vaicos, the Saigon river and the Dongnai. These, helped by the tides, enabled coasting vessels to penetrate far into the interior. The defect, however, of river transport is that it can supply only riverain tracts. At the time when the French became masters of Indo-China, railways were believed to be the forerunners of a new millennium. The French Government therefore built hundreds of miles of meter-gauge tracks; they have not fulfilled the hopes of their builders. They

have conveyed millions of passengers to all parts of the colony, but very little heavy goods. For besides the rivers there are other competitors of the steam engine, notably elephants, cattle and men; for portage by animals and human beings is still available and cheap. In more recent times the administration has built motor roads, dug canals and has started air services. It is as yet too early to say whether these enterprises will be commercially successful, especially as the present war has reduced all expenditure on public works.

The crops in which French capital has chiefly interested itself are rice, coffee, tea and rubber. At one time it was believed in Paris that large numbers of French families could profitably emigrate to Indo-China as they had emigrated to Algeria; but the distance, the different climate and the prevalence of malaria have discouraged agricultural settlement. Very few French colonial soldiers serving in Indo-China remain there on discharge, and the account they give of it is not calculated to tempt emigrants. French capital has therefore had to rely on the labor of natives, bound under contract for a term of years. By their toil plantations of rice, tea, coffee and rubber have been successfully created. Of these the most lucrative have been the rubber plantations. The fall, however, in the price of rubber from eight shillings and ten-pence in 1910 to elevenpence in 1925 hit the rubber planters very hard. For a short time the Stevenson plan restored to them prosperity, but when that was dropped, complete ruin faced the planters. The French Government saved them by making liberal advances and closing the rubber market of France to all producers save those in her own colonies. The advances have all been repaid; and cultivation has so increased that in 1943, 60,000 tons of rubber will be shipped, so it is anticipated, to the port of Marseilles.

One last question remains. How has French rule affected the indigenous population? Have they vanished like the Red Indians, the Caribs and the Tasmanian blacks? Happily, the contrary has happened. The population has grown and not diminished. Are the natives happier than they used to be? Here again an affirmative answer can be given. Yet poverty has not been wholly banished. The misery of the peasantry is still here and there deplorable to the traveller, who leaves the cities and enters the distant villages; and this, too, in spite of the vast increase in the country's wealth. The growth in the population has prevented a proportionate increase in the happiness of the individual. A prolific people, barely able to make headway against the acts of God, or of the king or of the king's enemies, has suddenly found itself protected against famine, foreign invasions and civil turmoil, and it has continued reproduction at a rate suitable to its old conditions. Unless births are artificially restricted, the condition of the inhabitants will fall back to what it was before the coming of the French. Fortunately, the idea that families should be limited is spreading among the more educated Indo-Chinese and will in time reach the peasantry. When birth restriction is universally practised, over-population will disappear and the inhabitants of Indo-China will be able to enjoy to the full the benefits of French civilization.

Netherlands Indies Offers Opportunities for American Trade

(Continued from page 177)

imports tend upward. Higher prices are expected for commodities formerly imported largely from Germany but now to come in greater quantities from the United States, because of the higher transportation costs entailed. It is impossible to forecast the practical effects of a possible long war upon the international restriction regulations, which govern the export of several leading products of the Netherlands Indies, but it appears probable that the potential production capacity of the country could be extended considerably on short notice.

It may be expected that efforts at industrialization will be continued and accelerated, which will have the effect of reducing imports of certain manufactured goods while increasing demand for raw materials and semi-manufactures. Further improvement in the economic position of the United States would materially benefit the Netherlands Indies, and available ocean freight space will play an important part in its economy in 1940.

How China Wins Wealth from Silkworms

By A. M. CANNAN

Following is an interesting address given recently at a Rotary meeting in Singapore by Mr. A. M. Cannan and published in *The Roda*, the publication issued by the Singapore Rotary Club. In opening his address the speaker defined sericulture saying it means the care and cultivation of the mulberry tree, the leaf of which is the food of the silkworm, the breeding of the silkworm and its tending from the time it is hatched until its cocoon is spun, then the reeling of the cocoon into the raw silk of commerce.

* * *

CHINA, of course, is the cradle of sericulture and it was known there for as long as its long history goes back. Legend attributes the discovery of how the gossamer filaments of the silkworm's cocoon could be practically utilized to the wise and beautiful Empress Si Ling Chi, whose concern appears to have been not so much profit as to keep her flighty maids of honor out of mischief.

How true that is I do not know, but it is quite certain that the rich silken fabrics of China found their way across Asia ages ago, to be sold at fabulous prices to the patrician ladies of Ancient Rome. There were, too, many attempts on the part of the traders and adventurers of those days to discover what was then thought to be the "silk-tree" which bore the silkworm's cocoons as their fruit, for sericulture was a closely guarded secret. Not until the time of the Emperor Justinian were the first silkworms' eggs smuggled out of China and sericulture introduced to the West.

Sericulture in China has always been and still is a cottage industry, and there are few villagers in the silk-growing districts of China who do not include in their meagre annual budget the few extra dollars they are able to make by this catch-crop.

In the first place, of course, there is the mulberry. It is not every farmer whose land is suitable for its growth, for the mulberry requires high ground to flourish, whereas the silk districts generally grow rice on the flats as their staple crop and, with the peasant farmer, foodstuffs come first. However, the cottager who owns a small mulberry plantation generally has more leaf than he needs for his own hatch of silkworms, which is naturally limited by the number in his family who can attend to the rearing, and thus he is able to dispose of his surplus.

The mulberry trees themselves do not, so far as my observation goes, need a great deal of attention throughout the year. Naturally, the ground is weeded, hoed and fertilized, blight and insect pests controlled, while the trees themselves are severely pruned every year and, however old they may be, are never allowed to grow to any great height. I do not know whether this is to make them more prolific of leaf or for convenience in plucking the leaves. The invariable answer I have had from the husbandman when I have put the question to him is that it has always been done that way.

The constituents of the soil in which the mulberry grows and so transmutes to the leaf have a tremendous effect upon the quality of the silk ultimately produced, although it is probable that climate also has a little to do with it. It has been found, however, that silkworms of Chinese stock, introduced say in Italy, lose their nationality very quickly and in a few generations spin cocoons which are quite indistinguishable in color, quality or characteristics from those of the Italian breed.

Differing Types

In a huge country like China, then, many different varieties and qualities of silk are grown, although the race of silkworm is the same. In the provinces of Kiangsu and Chekiang, served by the port of Shanghai, the staple is a pure white silk which used to be the best in the world. Further up the Yangtze less silk is grown, and that of a poorer quality, some of it white, some yellow. Then in Szechuen, where a great deal of silk is grown, the bulk of the silk is yellow in color and again of somewhat inferior quality to that of Kiangsu and Chekiang.

Do not, however, think that the color of the raw silk matters, for it makes no difference to the quality or to its use in any subsequent process of manufacture. In Kwangtung, Kwangsi and Kweichow the silk grown is amazingly different in its characteristics from the others I have described, being of a greenish to brownish white in color, soft and nerveless, but highly lustrous. Formerly this silk, under the generic name of Canton silk, was in great demand

with manufacturers of velvets and plashes, but it has for this purpose been largely supplanted by artificial silk these days and its production has fallen to a fraction of its former figure.

I will just mention the so-called "wild silk" or Tussah, which is harvested in the North of China, Manchuria and Korea, but this silkworm is an entirely different animal to its distant and more delicate cousin in South China, feeding as it does on the leaves of the scrub oak and needing no attention whatsoever.

I propose to depict the activities of a peasant family in the province of Kiangsu during the "cocoon" season seventy years ago, and I take so long ago because the procedure then differed in no way from that which had obtained for centuries. I shall have to tell you later the changes that befell partly as the result of China's opening to trade with the Western barbarians.

Seventy years ago, much more than now, the family was the unit of social life in the Celestial Empire. Filial piety was the greatest of all the virtues and the last word rested with the senior male member of the family, this system applying to rich and poor alike. So, taking our typical village family, owning a few mow of land and a ramshackle house far too small for the three generations which inhabit it, we find Grandpa, too old now for heavy field work, the arbiter of the family's affairs.

Early in May, Grandpa orders the overhauling of all the paraphernalia necessary for the forthcoming rearing of the silkworms—the large flat wickerwork trays, the erection of the temporary racks to hold them, and the repair of the primitive machine which later on will be used to reel the silk from the cocoons. Little John Willie, aged six, and his small sister are set to collecting brushwood and twigs from which will be fashioned miniature hedges in which the silkworms, in due course, will spin their cocoons.

Much at this time depends on the state of the weather and the promise of the mulberry leaf crop. Grandpa is satisfied that this year the leaf will be good and plentiful and therefore cheap, so there is no compunction about hatching out all the seed they have. This last usually occurs towards the middle of the month and coincides with the mulberry's bursting into leaf.

The infant silkworm as it emerges from the egg is observed to be a tiny caterpillar which looks like a piece of black thread. It is full of life, however, and immensely hungry. With its fellows it is gently shaken on to a piece of cloth, which is then placed in one of the wickerwork trays. They are far too small to tackle a leaf themselves and are therefore fed by having a quantity of young, tender leaf, chopped very fine, sprinkled over them. When they have eaten their way upward through this layer, the process is repeated.

Voracious Appetite

The unremitting attention that is necessary at this stage is obvious for the silkworm, except at definite stages of its development, does not stop eating and must not be stinted in its supply of food if it is properly to fulfil its brief life's work. There is also the important matter of hygiene, which means that the trays must be constantly cleaned, and the transfer of such tiny insects from one tray to the other which this necessitates is as delicate a task as it is laborious.

For nine to ten days the silkworm is fed upon these finely chopped leaves, and while it grows it still retains its threadlike appearance, which is the reason no doubt why it is so erroneously called a worm. About the tenth day it ceases to eat and falls into a state of coma, technically known as the first moult. Its skin is completely sloughed and it emerges a very obvious, and rather ugly caterpillar, rather whitish in hue, with a black head and feet, its length being from half to three-quarters of an inch. Its jaws are now strong enough to tackle the leaves as they are plucked from the tree, but it wants them fresh and wants them constantly.

Again a gradual growth can be observed until, after another ten days of continual eating, the hour strikes for the second moult. The insect emerges from this a dull white caterpillar, still with its black points and some three inches in length, which over the next ten days increases to a possible six. Its appetite is now enormous and the family is kept busier than ever with its food supplies. During this and the preceding stage the silkworms are carefully

watched for any signs of sickness and those insects which appear to be ailing are removed and destroyed lest they infect the others.

This final stage in the silkworm's development lasts another nine or ten days when its various appetite begins to flag while its body takes on a rather translucent appearance. It is now ready to spin its cocoon and the bundles or miniature hedges of brush-wood are placed handily for it. The silkworm crawls up the brush-wood and, with a good deal of deliberation, selects a suitable place to bestow itself when it begins to surround itself with a web-like cage or hammock of silken threads.

900 to 1,000 Meters

Within this it starts the interminable task of spinning a cocoon around itself, one continuous filament which is discharged from two silk glands in its body through an aperture in its lower lip, so to speak. When the glands are completely exhausted the finished cocoon contains a filament of from 900 to 1,000 meters in length. This process takes some considerable time and it is not for four days that it is reckoned to be complete and the metamorphosis of the caterpillar into the chrysalid is accomplished.

I have assumed that weather conditions have been perfect, that is to say, fresh and warm with perhaps an occasional gentle shower of rain. Heavy drenching rain which goes on for days is certain to lead to heavy mortality, for the silkworm's internal economy seems to be very delicate and too much water in its food inevitably leads to severe and frequently fatal stomachic disorders. Thunderstorms are particularly dreaded because they literally scare the worms stiff, and a bad thunderstorm means that hundreds of them turn up their little toes.

It is now that Grandpa takes a hand again in setting aside the cocoons from which the next generation is to be bred. Generally the cocoon of the male insect is somewhat smaller, and slightly differently shaped from that of the female, so his task in this direction is easy, but as he wishes to keep his stock sound he is meticulous in selecting good firm cocoons, which he rightly judges could only be spun by vigorous and healthy caterpillars.

That done, the next job is to garner the crop from the cocoon harvest. The unwieldy reeling machine is brought into action and the reeling of the cocoons is begun. The single fine filament of the cocoon is far too delicate to be reeled as it is, nor would it be any good commercially if it could be. Several cocoons—in Grandpa's day probably a dozen—are used to make one thread, a simple enough matter, as the natural gum in the silk is quite sufficient to join the filaments into one cohesive strand. The cocoons are placed in a pan of water, maintained almost at boiling point by a slow fire and this not only loosens the filaments but destroys the latent life in the chrysalid.

The filaments from the cocoons in the pan are led through an eyelet and the thread thus formed over a bobbin on to the large reel which is turned at the necessary speed and on which the skein of raw silk is thus gradually wound. As the filament from the cocoon is exhausted, a fresh cocoon is joined on and the finished one discarded.

Breeding Time

When all the cocoons are reeled, the family is able to rejoice in the possession of a few catties of valuable raw silk which can later on be sold, at the expense it is true of real hard labor, but labor at the same time which has not in the least interfered with the more important fieldwork.

The sericultural work, however, is not yet complete, for there are still Grandpa's selection of cocoons set aside for breeding purposes to be dealt with. Within another ten days of the silkworm's spinning its cocoon the final stage in its short life cycle begins and the chrysalid becomes a moth. Its first task is to break through its prison walls, and this it does by ejecting some peculiar acid substance which has the property of so softening the silk which surrounds it that it has little difficulty in forcing its way through, usually through one end of the eggshaped cocoon.

The moth has no pretensions to beauty. It is white in color with a wing spread insufficient to permit of flight; it has no mouth or digestive organs; and the one purpose of its few remaining hours of life is that of reproduction. No sooner has it become dry, for its exit from the cocoon leaves it rather crumpled and wet, than, whatever its sex, it looks about for a mate, and having found one, no time is lost in courtship but with a vigorous whirring of their

rudimentary wings, the marriage is consummated. The coupling is allowed to continue for about four hours, when the eggs of the female are considered to be fertilized.

The moths are then separated, the male to be thrown aside to perish with its memories, and the female to carry out her appointed task. She is placed upon a piece of cloth or paper and very soon begins to lay her greenish white eggs, each about the size of a pin-head. She deposits them methodically, each adhering to the surface on which they are laid, almost but not quite touching each other. This is done at considerable speed, for she has anything up to six hundred to get rid of before she can, at length exhausted, give up the ghost.

Such then was sericulture in China seventy years ago and for centuries before that. I have tried to show you that, owing to the prime necessity of getting as much silk as possible from the seed hatched out, Grandpa's rough and ready but none the less effective methods of selection for breeding and the elimination of sickly and diseased worms during the rearing made for this and for the vigorous continuation of the race.

The development of steam power in Europe changed all this. There, silk was reeled in factories called filatures, and this meant that a far more even and regular thread was produced, made up in skeins that could be readily handled in the subsequent processes of manufacture, and this created its own demand. Grandpa's primitive machine had had its day.

So, about sixty years ago, the first steam filature in Shanghai was started, and this meant that cocoons instead of raw silk had to be bought and the farmers spared the labor of reeling their own little crop of cocoons as they had done hitherto.

Development in this direction was slow and it was not until the second decade of this century that filatures began to multiply to such an extent that the old native reels of Grandpa's day began to disappear, and the peasants thenceforward relied entirely on the demand from the filatures to dispose of their crop.

This eventually brought about an appalling state of affairs, for the farmers were not long in discovering that a thin cocoon, plus the weight of the chrysalid, weighed very little less than a firm one spun by a healthy worm. Consequently he found it paid him to keep as many of his hatchings as he could raise to maturity so long as they could spin a cocoon of some sort: further, that he could cut down on the silkworm's leaf and still get a cocoon. It did not matter to him how poor it was. All Grandpa's traditional sericultural lore went by the board and, generation by generation, the breed deteriorated.

To illustrate this—in 1904 and for some years afterwards, when there were comparatively few steam filatures, the yield of raw silk was one picul to fifteen of fresh cocoons. Thirty years later the ratio was one to twenty-seven, with the quality of the silk getting steadily worse.

Long before this, it had been foreseen that the very existence of sericulture was in danger and an International Chinese and Foreign Committee had been set up to study the problem. That committee did a great deal of very useful work but the limited funds at its disposal made its task a hopeless one, while its constant request that sericulture should be handled by the Government as a pressing national need fell on deaf ears.

Finally, as I have said, deterioration became so marked that it seemed only a matter of a few short years before China as a silk-producing country could be counted out altogether and a valuable article of export completely lost.

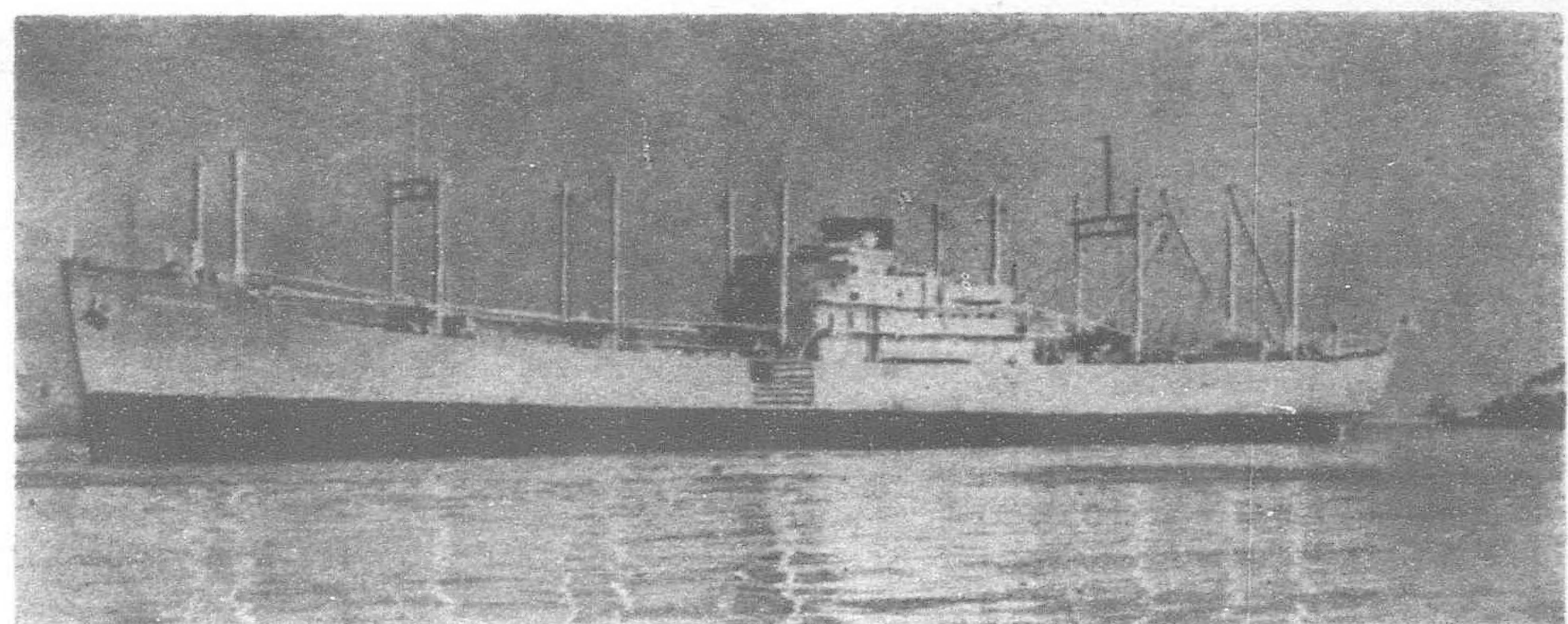
Then at last the Government took action. Disease-free seeds were imported from Japan and distributed gratis to the cottagers in return for their own "suspect" stock and a certain amount of supervision during the period of rearing was introduced. To ensure that leaf should be plentiful and cheap in all circumstances, Government mulberry plantations and nurseries were established.

Altogether, the action taken was highly commendable, if belated. A very marked improvement in the yield of raw silk to cocoons was at once apparent, although naturally the crops at first showed very distinct characteristics of the Japanese Raw rather than those of the Chinese Silk. This, as time goes on, and the stamina of the stock is re-established, will disappear and, unless I am very wrong in my guess, the raw silk of Chekiang and Kiangsu will once again be what it was the best silk in the world. The chances are, of course, that present events have caused a setback, since Government effort is bound to be dislocated, but it is a temporary setback.

First of Maritime Commission's C-3 Ships Completed

THE United States Maritime Commission's long-range shipbuilding program embraces replacements and additions to the American Merchant Marine based on the highest standards of marine transportation with consideration of national defense. The major part of the program includes three basic hull designs for cargo ships, C-1, C-2, and C-3, varying in length, speed, and type of propulsion requirement.

In the words of Rear-Admiral Emory S. Land, Rtd., Chairman of the U.S. Maritime Commission, "the policy is, wherever possible, to follow any developments along the line of increased machinery efficiency which may have been made in stationary power plant design, to adapt them to ship propulsion. The main factors to be considered in marine installations are:



Motorship *Mormacpenn*, first U.S. Maritime Commission's Class C-3 ships to be completed

- (1) Economy of operation.
- (2) Reliability.
- (3) Simplicity of design and operation.
- (4) Location of machinery in confined spaces, such as engine-rooms aboard ships.
- (5) Weight.
- (6) Instrument control, as far as practicable.
- (7) Cost."

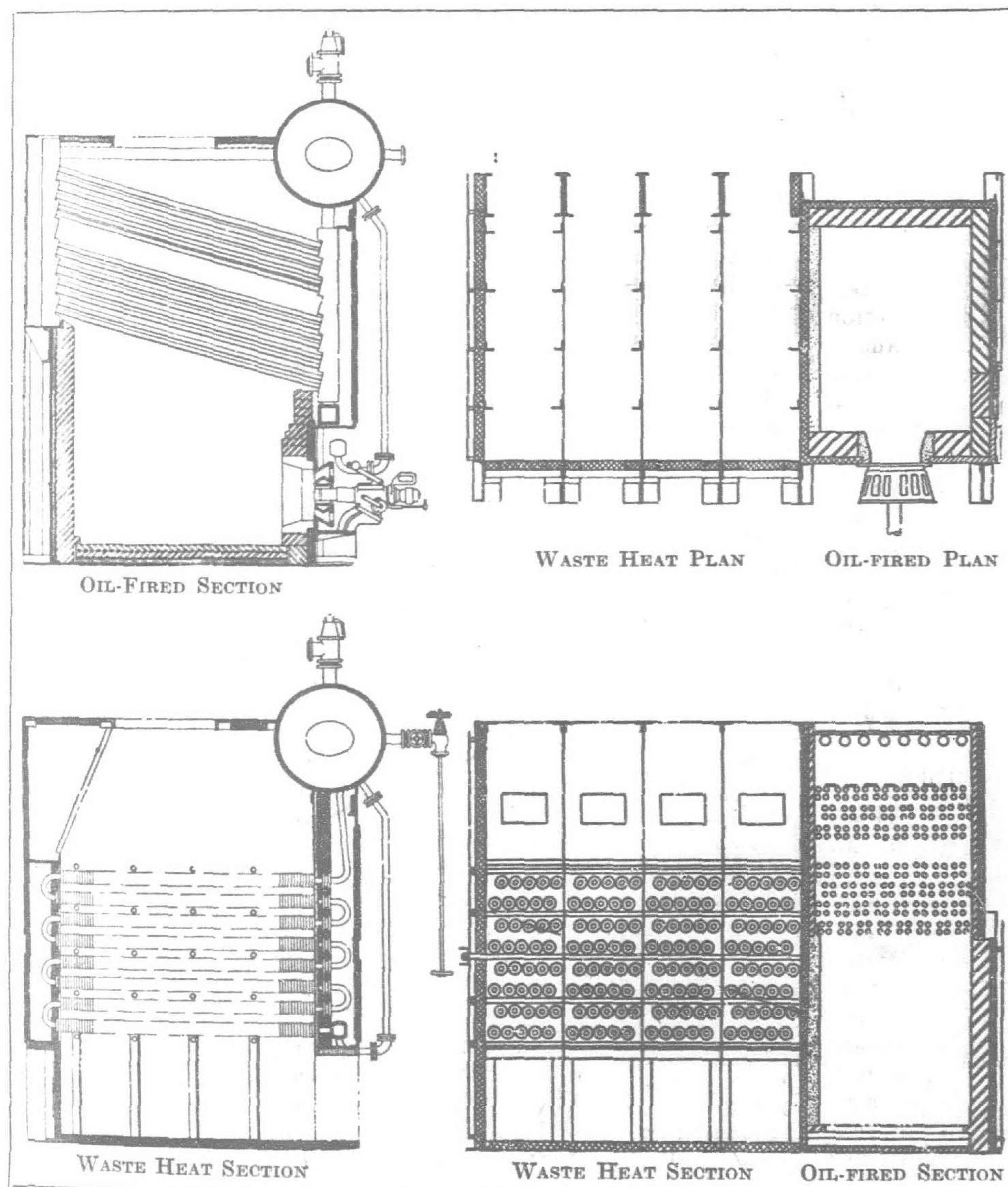
These principles have been carried out in both turbine and Diesel driven ships. Some of the C-2 steamships have set new world's records in over-all fuel economy (see Heat Engineering for August and September, 1939). First of the C-3 cargo ships to be complete, and 23rd in the Commission's construction program, the *Mormacpenn* earned the title of America's fastest freighter by reaching a speed of 19 knots on trials in mid-January, although her normal designed speed under average sea conditions is $16\frac{1}{2}$ knots.

Larger deadweight cargo capacity and higher speed is provided in the C-3 cargo ship design than in the C-2 design and considerable flexibility in arrangement is afforded for accommodation of passengers. The principal characteristics of the *Mormacpenn* are:

Length over-all, feet	..	..	492
Beam, molded, feet	..	..	69½
Depth, molded to shelter deck, feet			42½
Load draft, molded	..	..	28½
Passenger capacity ..	..	..	12
Normal shaft horse-power ..	..	..	8,500
Maximum shaft horse-power	..	..	9,350
Cruising radius, miles ..	..	..	14,500
Deadweight, tons ..	..	..	11,735

The *Mormacpenn* was built by Sun Shipbuilding and Dry Dock Company and delivered to the charterer, Moore-McCormack Lines, Inc., on January 18, for service on the American Republics Line to South America.

Propulsion is by Diesel engine but with an unusual arrangement of main power units, now being placed in an American vessel for the first time. Four Busch-Sulzer engines operating at 240 rpm. drive a single propeller at 85 rpm. through a reduction gear. The engines are low, compact, and placed in pairs longitudinally of the ship, on either side of the couplings and main gear box in the center. Each engine drives a pinion through a 2,230 h.p. electric coupling and there is no mechanical contact between the members coupled. Engines and gear can be instantly uncoupled by throwing a switch on the engineer's control panel and demagnetizing the coupling. The coupling control permits unusually rapid maneuvering as for example when approaching the pier, two engines may be operated continuously ahead and two astern, and the propeller may be

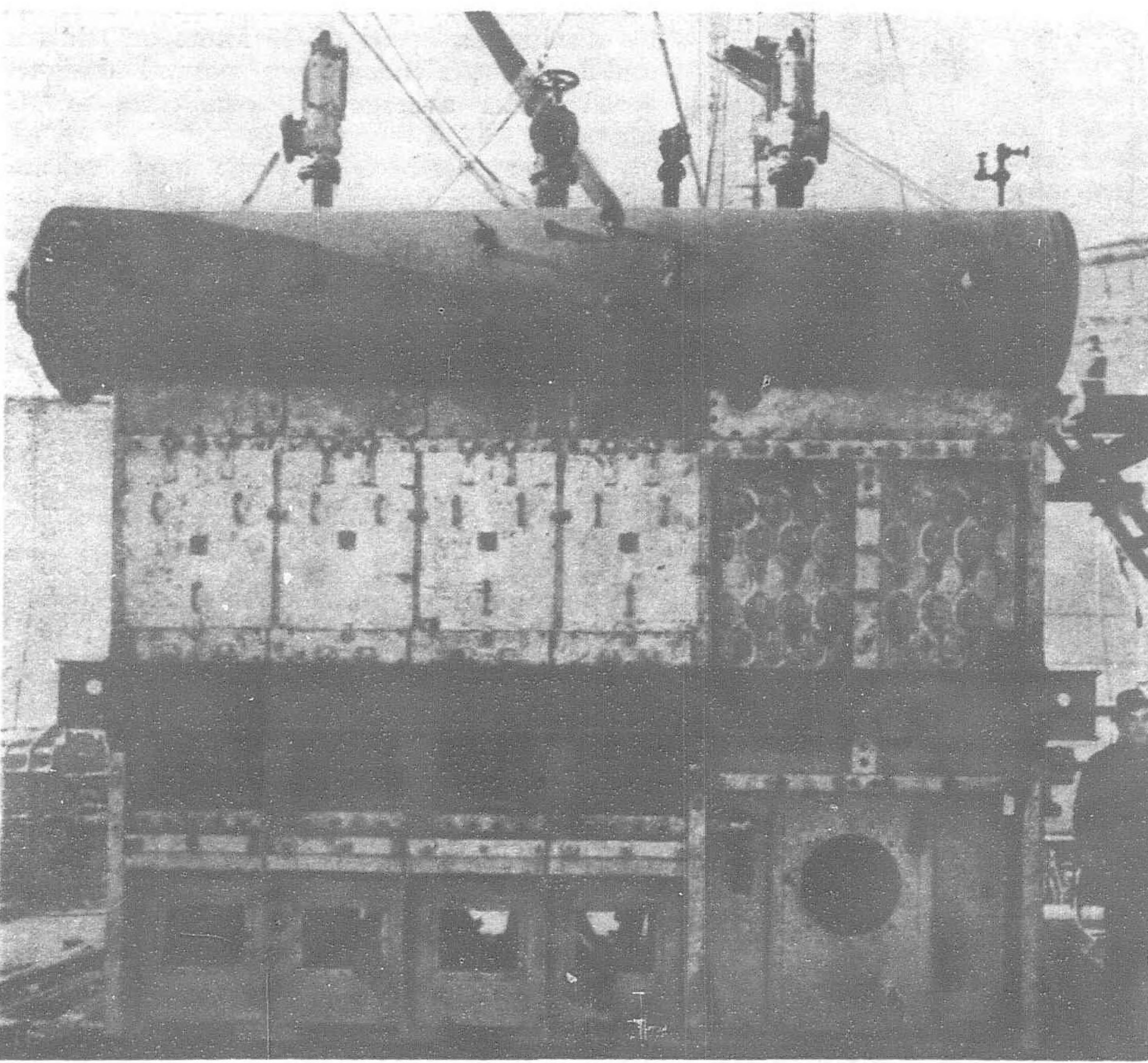


Sectional drawing of combination waste heat and direct-fired boiler to provide ship's steam requirements. The boiler consists of two sections: (1) an oil-fired cross-drum, sectional-header unit, and (2) a cast iron extended surface, waste heat recovery unit of the type commonly used with Diesel engines, divided into four compartments, one for each engine. A single steam drum is common to all sections. The oil-fired section is shown at upper left and below it is the waste heat section. At lower right is a vertical section through both portions with waste heat compartments at left and oil-fired section at right. Upper right is a plan taken through the gas chambers.

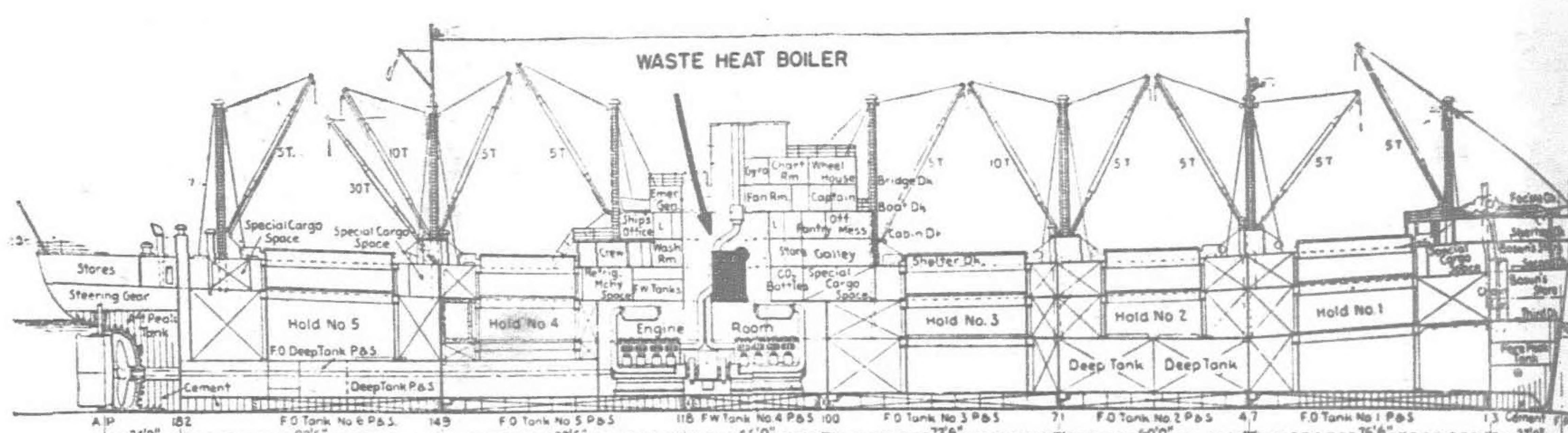
instantly connected to drive either ahead or astern without delay.

Although steam is required for general purposes on all ships of any size, none is provided by Diesel engine prime movers. However, considerable heat is available in the exhaust gases from the main engines and, on the *Mormacpenn*, these are conducted to a Foster Wheeler combination waste heat and direct-fired boiler unit which provides steam at 50 lb. ga. pressure. Operation of this type of boiler is quite different from that of the usual marine boilers since heat for the generation of steam is obtained from either of two sources or both in conjunction. The boiler is divided into two heating sections connected to a single steam drum; one section is the waste heat absorption portion recovering heat from the exhaust gases of the main engines, and the other is a direct-fired boiler section of conventional design heated by a single oil burner. The earliest installation of this sort was in the motorship *Pennsylvania Sun*, constructed by the Sun Shipbuilding and Dry Dock Company for the Sun Oil Company, and driven by a single 6,000 h.p. Sun-Doxford engine (see Heat Engineering for September, 1938).

Interesting modifications were involved in the *Mormacpenn* since the Diesel power equipment consists of four engines instead of one. Each of these engines is provided with its individual waste heat boiler section which assures best performance and great flexibility. If the exhausts from all four engines were discharged



Combination waste heat and direct-fired boiler during assembly on the dock. The four waste heat compartments are at the left, direct-fired section with hole for installation of burner, at the right. The drum extends across the entire unit with individual connections to each section



Longitudinal section through the *Mormacpenn* showing position of the boiler

into a single common chamber containing all of the heating surface for the exhaust gases, it would result in undesirable operation. For example, if two engines were operated and two idle, the gas velocity and heat transfer rate would be low, and performance unsatisfactory. Furthermore, if work were to be done on any of the elements in the waste heat section of the boiler, all four of the engines would have to be shut down. Having a separate gas passage for each engine permits shutting down one engine in order to work on the corresponding gas passage, which in itself is a great advantage.

Mechanical details of the boiler include a steam drum, 36 inches in diameter and approximately 16 feet long, with connections to both direct-fired and waste heat sections. The elements in the waste heat portion are arranged horizontally and are of composite construction in which extended surface, gilled ring castings are shrunk upon 2-inch diameter boiler tubes. This gives the strength of steel, the corrosion resistance of cast iron and a heat absorbing surface six times that of the bare tubing. Positive direction of water flow through the tubes which is essential for satisfactory performance is effected by placing orifice plates in the downcomer pipes from the steam drum to the bottom header supplying the tubes. Waste heat boilers of this construction have been in service in large Diesel-driven ships for twelve years. The direct-fired heating section is composed of straight tubes, expanded into forged-steel sectional headers, connected to the steam drum with 4-inch tubing and nipples.

The entire boiler is designed for heavy duty, with framing and casing built to withstand pulsations set up by the exhaust. Exhaust gas chambers function effectively as mufflers, offering frequent changes in velocity and direction of the gases, without imposing appreciable back pressure. Ample insulation is used throughout to prevent loss of heat.

The combination of heating methods permits maximum efficiency in over-all ship operation by utilizing heat units otherwise lost up the stack when running the engines, and at the same time provides complete independence of engines through direct oil firing, at any rate necessary to assure the steam required for ship's use. In other words, if the engines are run at low rating or shut down, the oil burner may be operated to make up any deficiency. This results in minimum fuel oil consumption during each year's operation and carries out the policy of the U.S. Maritime Commission, as expressed by Admiral Land, in taking full advantage of the waste heat remaining in Diesel engine exhaust gases and applying them toward economy in over-all ship operation.

GOLD FOUND AT NANKING

Preparations are being rushed in Nanking for an extensive exploitation of the rich gold vein recently found in the Purple Mountains, the *Shanghai Mainichi* reported to-day.

The gold vein, parts of which were virtually exposed at the

peaks of the mountains under only a thin coating of sand and gravel, was discovered by Mr. Sakae Sonobe, a temporary employee of the reorganized National Government of China, on March 30, the day when the Government returned to Nanking, the paper recalled.